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Index—California and Western Medicine, Volume 43
July to December, 1935

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Sequence of Subheads in Index

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I. Authors.
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Key to Abbreviations in This Index

Or.—Original article.
C. R.—Case Report.
B. M.—Bedside Medicine.
Ed.—Editorial.
E. C.—Editorial Comment.
C. N.—Clinical Notes.
L. M. H.—Lure of Medical History.

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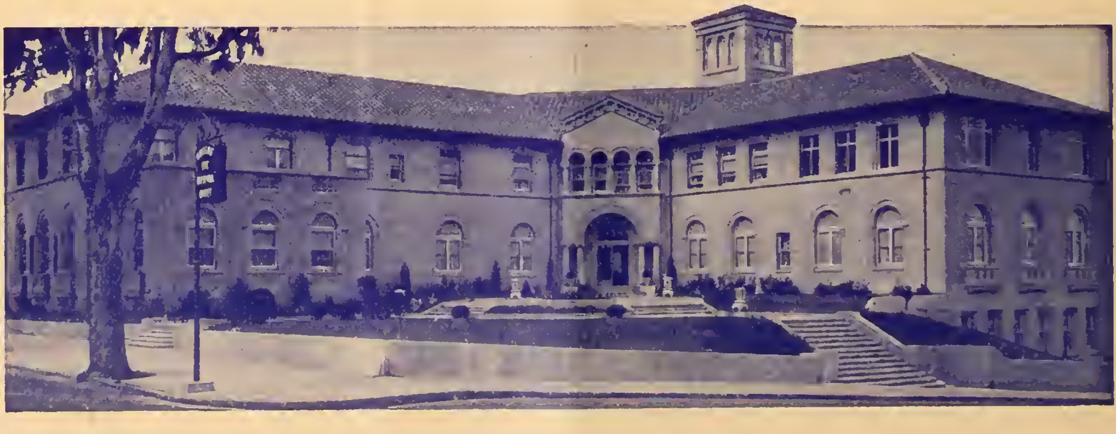

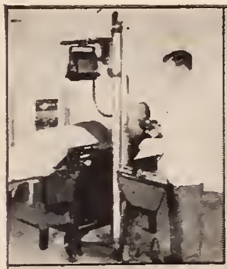

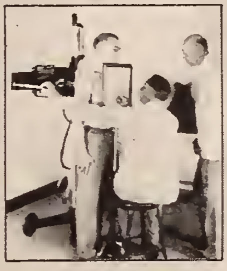

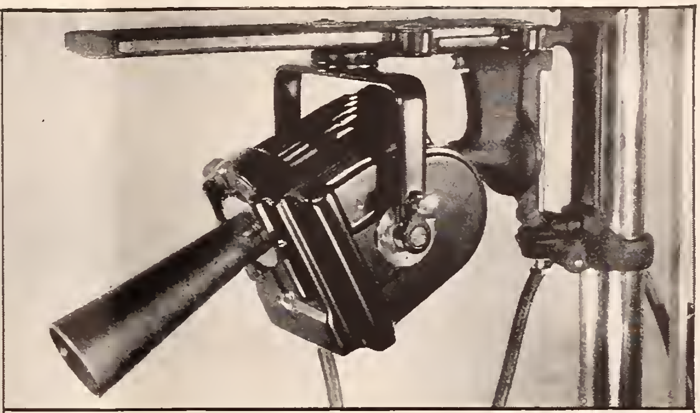

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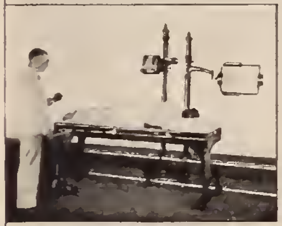

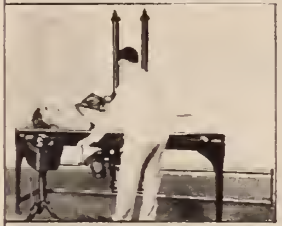

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Secretary, William H. Lawler, 215 Bank of America Building, Salinas.

Napa County Medical Society
President, Laurence Welti, 1130 First Street, Napa.
Secretary, M. M. Booth, 1379 Main Street, St. Helena.

Orange County Medical Society
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President, Orrin S. Cook, Mater Misericordiae Hospital, Sacramento.
Secretary, Frank W. Lee, 510 Physicians Building, 1027 Tenth Street, Sacramento.

San Benito County Medical Society
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San Bernardino County Medical Society
President, C. L. Emmons, 301 North Euclid, Ontario.
Secretary, A. E. Varden, 575 Fifth Street, San Bernardino.

San Diego County Medical Society
Fourteenth Floor, Medico-Dental Building, 233 A Street, San Diego
President, W. H. Geistweit, Jr., 810 Medico-Dental Building, 233 A Street, San Diego.
Secretary, Winston C. Crabtree, 14th Floor, Medico-Dental Building, 233 A Street, San Diego.

San Francisco County Medical Society
2180 Washington Street, San Francisco
President, J. C. Geiger, San Francisco Department of Public Health, 101 Grove Street, San Francisco.
Secretary, Mary Jones-Mentzer, 2180 Washington Street, San Francisco.

San Joaquin County Medical Society
President, C. A. Broaddus, 907 Medico-Dental Building, Stockton.
Secretary, George H. Rohrbacher, Medico-Dental Building, Stockton.

San Luis Obispo County Medical Society
President, C. J. Teass, 1008 Palm Street, San Luis Obispo.
Secretary, Allen F. Gillihan, 1009 Morro Street, San Luis Obispo.

San Mateo County Medical Society
President, William F. Knorp, Box 156, Burlingame.
Secretary, H. H. Ray, 23 Second Avenue, San Mateo.

Santa Barbara County Medical Society
President, E. Kost Shelton, 34 W. Micheltorena Street, Santa Barbara.
Secretary, William H. Eaton, Health Department, Santa Barbara.

Santa Clara County Medical Society
President, C. Kelly Canelo, 505 Medico-Dental Building, San Jose.
Secretary, E. O. G. Schmitt, 603 Medico-Dental Building, San Jose.

San Cruz County Medical Society
President, S. W. Dowling, Slaffler Building, Santa Cruz.
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Shasta County Medical Society
President, M. D. Pratt, Fall River Mills.
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Siskiyou County Medical Society
President, J. Roger U. Campbell, Dunsmuir.
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President, Amhrose J. Ryan, 405 Georgia Street, Vallejo.
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President, F. O. Butler, Sonoma State Home, Eldridge.
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(Roster lists continued on advertising page 6)

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● Visitors can leave Big Trees Lodge in the morning, stroll down the stately tree aisles to their favorite place in the sun, and meet no one, all day, until they arrive back at the Lodge verandas in the evening. A week like that, in the dry, pine-filled Sierra air, and your "nervous" patients will find relaxation and renewed vitality beyond anything that even the most protected suburban living has to offer.

● The accommodations at Big Trees Lodge add a welcome holiday note. Built in 1933, it provides a wealth of modern living comforts. The food here, as in all Yosemite hotels, is government-inspected, and drinking water and milk supplies are subjected to periodical bacterial counts.

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Miscellaneous California Medical Organizations

State of California Department of Public Health

San Francisco—State Office Building, McAllister and Larkin Streets. UNderhill 8700.

Sacramento—State Office Building, Tenth and L Streets. CApital 2800.

Los Angeles—State Office Building, 217 West First Street. MAdison 1281.

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San Francisco, Rm. 512, 450 McAllister St.

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Chairman, Lowell S. Goin, 1930 Wilshire Boulevard, Los Angeles.

Secretary, L. H. Garland, 450 Sutter Street, San Francisco.

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Executive Secretary, Ben H. Read. San Francisco Office, 450 Sutter Street. Los Angeles Office, Room 563, 1151 South Broadway.

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President, Reginald Knight Smith, 490 Post Street, San Francisco.

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The Institutions here listed have announcements in this issue of California and Western Medicine. For Index, see advertising page 8.

ALUM ROCK SANATORIUM
For Treatment of Tuberculosis
San Jose, California

CALIFORNIA SANITARIUM
For Treatment of Tuberculosis
Belmont, California

CANYON SANATORIUM
For the Treatment of Tuberculosis
Redwood City, California

COLFAX SCHOOL FOR THE TUBERCULOUS
For the Treatment of Tuberculosis
Colfax, California

COMPTON SANATORIUM AND LAS CAMPANAS HOSPITAL, COMPTON
Neuropsychiatric and General
Compton, California

FRANKLIN HOSPITAL
Limited General Hospital
Fourteenth and Noe Streets, San Francisco

FRENCH HOSPITAL
General Hospital
Geary at Fifth Avenue, San Francisco

GREENS' EYE HOSPITAL
Consultation, Diagnosis and Treatment of Diseases of the Eye
Bush and Octavia Streets, San Francisco

THE GREER HOME, Inc.
Convalescent Home
6000 Fulton Street, San Francisco

LAS ENCINAS SANITARIUM
Nervous and General Diseases
Las Encinas, Pasadena, California

LIVERMORE SANITARIUM
Nervous and General Diseases
Livermore, California

POTTENGER SANATORIUM AND CLINIC
For the Treatment of Tuberculosis
Monrovia, California

PARK SANITARIUM
Mental and Nervous, Alcoholic and Drug Addictions
1500 Page Street, San Francisco, California

SOUTHERN SIERRAS SANATORIUM
Treatment of Tuberculosis
Banning, California

SAINT FRANCIS HOSPITAL
Limited General Hospital
Bush and Hyde Streets, San Francisco

ST. LUKE'S HOSPITAL
Limited General Hospital
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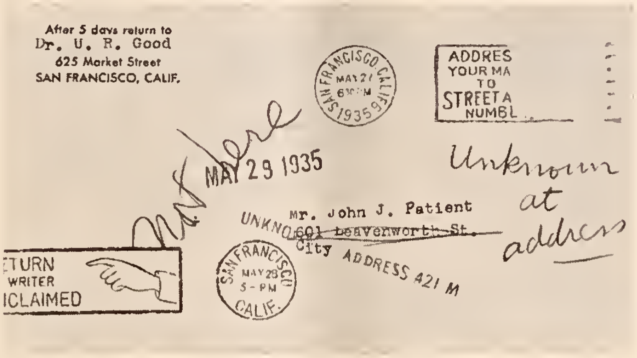

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This course includes diagnosis and determination of treatment; pre-operative preparation; anesthesia; operative technique; dressings; post-operative care; with special reference to utilization of the skin and other tissues in correction of disfigurement and replacement of loss, congenital or acquired. Operations on the cadaver. Particular attention is given to lectures, studies and demonstrations of advances in surgical anatomy, pathology, etc., with special reference to the problem actually under consideration.

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An intensive course. Surgical treatment of chronic suppuration of the lung (pulmonary tuberculosis, abscess of the lung, bronchiectasis) and tumors of the lung. Surgical lesions of the esophagus, heart and diaphragm. Empyemas. Witnessing of operations, cadaver operations, pathologic physiology, experimental surgery and bedside rounds. Indications for surgical treatment, pre-operative care and post-operative management.

FOR INFORMATION ADDRESS
MEDICAL EXECUTIVE OFFICER 345 West 50th Street, New York City

COURSE IN
OPERATIVE SURGERY
Fall Term of 1935 Extends from
AUGUST 20 to DECEMBER 20

The subjects covered during this term will be:

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The course will include a foundation in Anatomy, Surgical Pathology, Diagnosis, and Operative Technic. As supplementary to the work on cadavers, dogs and fresh human material, lectures and demonstrations will be given on living subjects by leading surgeons of San Francisco. The hours will be arranged so as not to interfere with the practice of physicians in San Francisco and nearby cities and towns.

The work will be given on two days a week, from 11 to 1 o'clock. The entire course may be taken on Tuesdays from 11 to 3 o'clock. Mimeographed copies of all lectures will be furnished to the students free of charge.

Applicants must be graduates of schools approved by the State Board of Medical Examiners

For descriptive circular and further information inquire of

SAN FRANCISCO POLYCLINIC AND POSTGRADUATE COLLEGE, or
A. J. REMMEL, M. D., *Director of Course in Operative Surgery* 1535 JACKSON ST., SAN FRANCISCO

A New Method of Taking Impressions of Finger Prints.—Detective Inspector Webber has discovered a new method of taking impressions of finger prints, which has the advantage of dispensing with the camera. The present system is to smear a powder, which brings up the print, and this is then photographed. The new powder is merely smeared over the object where a trace of finger print can be detected. Copies are then taken direct on a sensitized paper record. The police authorities are sanguine that the powder will be effective in taking finger prints from dark and dull backgrounds and that a sharp black and white print will be obtainable from even a dull and rough wall. The powder has not yet been officially adopted for general use by the police, but there is reason to believe that the final experiments will be successful and that its use will be approved. So far the powder is said to be an unqualified success. Its composition has not been stated.

Physiotherapy Course

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Given by the doctors on the staff and the Director of Physiotherapy for graduate nurses and graduates of Physical Education.

September 12, 1935—September 12, 1936
Tuition $125
Apply to Miss Lily H. Graham, Director,
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Rates for these insertions are $4 for fifty words or less; additional words 5 cents each.

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LABORATORY TECHNICIAN, SEVEN YEARS' EXPERIence in hospital laboratory, two years' nurse's training, member of American Society of Clinical Pathologists, wants position in hospital or doctor's office. All routine work, metabolisms, tissue chemistry. References. Full or part time. Phone FIllmore 0962, or Box 700, California and Western Medicine, 450 Sutter Street, San Francisco.

Improved Method Cuts Cost of Making Calcium Gluconate.—A cheaper and faster method for making calcium gluconate, commonly prescribed for expectant mothers and others who need calcium, was reported before the American Chemical Society in New York City by H. T. Herrick, R. Helbach and O. E. May, chemists of the United States Department of Agriculture.

The discovery is based upon a more efficient use of molds as fermentation agents. Molds have been used for centuries in the manufacture of Roquefort and Camembert cheese, and more recently for making citric and gluconic acid.

Six years ago Herrick and May discovered a mold that produces gluconic acid from glucose or corn sugar. This acid is important in the manufacture of calcium gluconate, which until that time sold for about $150 a pound. When this pure-culture mold was put to work making gluconic acid the rare chemical could be made for fifty cents a pound. The improved process now cuts the cost still more.

Because molds must have air—the same as most other forms of plant life—the chemists grew them on the surface of shallow pans in the laboratories of the Bureau of Chemistry and Soils at Arlington Farm, Virginia. The method can be adapted to commercial use, but the necessity of using large pans has been a decided handicap in large-scale operations.

To offset this handicap, the scientists set out to find some way to make the molds grow beneath the surface, as yeasts do in the manufacture of alcohol. The result is a rotating drum equipped with paddles on the inside of the drum—somewhat like a rotary churn. Air is forced into this drum under pressure through one end, and is removed through the other end.

Tests over several months show three important advantages of the new method for making gluconic acid. With the rotating drum, ten pounds of sugar yields eight pounds of gluconic acid, compared with five and one-half pounds when pans are used. The time required is only one-fifth of that formerly needed, and the drum is much better adapted to commercial production, because of greater simplicity of operation.

Besides its application in making gluconic acid, the new rotating drum method has promising possibilities for making other organic compounds of industrial importance.

Molds are microscopic plants, usually regarded as enemies rather than allies of man. Perhaps the most common is the bread mold, which seems to come from nowhere and quickly sends out its thread-like filaments into all parts of its host. In addition to causing food spoilage, molds work havoc with shoes and clothing, as every housewife knows, to her cost.

The process of fermentation has interested students since the days of Lavoisier, one of the founders of modern chemistry, who lost his life on the guillotine during the French Revolution. It is the breaking down of sugar—a highly complex chemical compound—into simpler substances. In addition to molds, two other kinds of microscopic plant life—bacteria and yeasts—have the ability to bring about fermentation. Familiar examples of bacterial fermentation are the souring of milk, kraut, and pickles. Yeast fermentations occur in breadmaking and in the manufacture of alcohol.

The investigators believe that mold fermentations under pressure in a rotating drum offer an entirely new set of experimental conditions, which, when applied to other organisms and other biochemical reactions, may afford surprising and satisfactory results.

Responsibility of Physicians in Social Welfare Work. The new responsibilities imposed upon the organized medical societies have aroused apprehension in the minds of some. Difficulties will be encountered; problems must be solved; personnel machinery and technique may not work smoothly at the start. More than anything else, this should bring to the mind of every physician the recognition that in this modern age our group affairs must be administered. Administration cannot be effective if not properly financed. If physicians are unwilling to provide the means, by the payment of sufficient dues for the purpose, then we, as a class, should not complain when other agencies undertake to assume command. We have the opportunity to be masters of our own destiny. We must face this new day with courage, confidence, and determination. The will to do is fundamental and imperative.

Summer Diarrhea in Babies.—Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with eight level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six teaspoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

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BOOK REVIEWS

List of Books Received

BOOKS RECEIVED

Clinical Laboratory Methods and Diagnosis. A Textbook on Laboratory Procedures with their Interpretation. By R. B. H. Gradwohl, M. D., Director of the Gradwohl Laboratories; Director of the Gradwohl School of Laboratory Technique; Director of Laboratories, St. Louis County Hospital; Chief of Staff and Pathologist to Christian Hospital. Cloth. Pp. 1,028, with 328 illustrations in the text and 24 color plates. Price, $8.50. St. Louis: The C. V. Mosby Company, 1935.

Hospital Accounting and Statistics. Manual for American Hospitals. Authorized for Publication by the Trustees of the American Hospital Association upon Recommendation of the Council on Community Relations and Administrative Practice. Cloth. Pp. 83. Price, $1. Chicago: The American Hospital Association, 1935.

The Depopulation of Pacific Races. By S. M. Lambert. Paper. Pp. 42. Honolulu: Bernice P. Bishop Museum, 1934.

United States Naval Medical Bulletin. Published Quarterly for the Information of the Medical Department of the Navy. Issued by the Bureau of Medicine and Surgery, Navy Department. Division of Publications, Commander Louis H. Roddis, Medical Corps, United States Navy in Charge. Vol. XXXIII, July, 1935, No. 3. Paper. Pp. 106. Price 25 cents. Washington: United States Government Printing Office, 1935.

Emotions and Bodily Changes. A Survey of Literature on Psychosomatic Interrelationships 1910-1933. By H. Flanders Dunbar, M. D., Ph. D., Departments of Medicine and Psychiatry, Columbia University. Cloth. Pp. 595. Price, $5. New York: Columbia University Press, 1935.

International Clinics. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest. By leading members of the Medical Profession throughout the world. Volume II, Forty-fifth Series, 1935. Cloth. Pp. 327, illustrated. Philadelphia: J. B. Lippincott Company, 1935.

BOOK REVIEWS

Gynecology and Obstetrics. Edited by Carl Henry Davis, M. D., Clinical Professor of Obstetrics, Marquette University. Volumes 1, 2 and 3, composed of numerous sections, many illustrations in loose-leaf binding. W. F. Prior Company, Hagerstown, Maryland.

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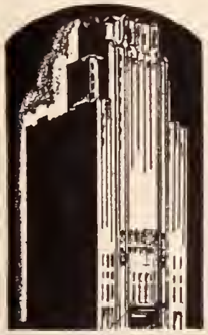

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TWENTY-FIVE YEARS AGO

(Continued from Text Page 104)

gleaned from the clinic or furnished by experimental physiology have in recent years led to recognition of the vital functions of the ductless glands, and in no field of medicine has physiological teaching been followed by more striking triumphs of rational therapy. Activity along many lines has made it possible to speak authoritatively of certain thyroid affections and of the functional importance of pancreas and adrenals. . . .

From an article on "A Plea for a State Institution for the Treatment of Chronic Alcoholic and Drug Habitués" by R. E. Bering, M. D., San Francisco.

During an experience covering eight years, I have received many pitiful letters from men and women who were addicted to the alcohol, morphin and cocain habits who had an honest desire to be freed from its terrible slavery, but unfortunately had no means wherewith to pay even a portion of the necessary expense. . . .

From an article on "The Ethical Versus the Commercial Side of Medical Practice—Which Will We Serve?" by John McMahon, M.D., San Jose.

An inducement to ask your attention to this subject is stimulated by the reading of an editorial in last month's number of our *State Journal of Medicine*, which, as a preface, I shall here quote for the benefit of the many in our profession who are so pressed for time by their exigencies in the hasty pursuit of the nimble sixpence, as to ill afford an opportunity for reading such monthly literature of their professional household.

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In this State, medical fees have always been somewhat better than in other parts of the country; but we are feeling the contract business and it is a menace. . . ."

From an article on "Abdominal Injuries, with Special Reference to Early Diagnosis and Treatment" by Robert T. Legge, M. D., McCloud.

The subject I have selected for this paper is a voluminous one and one of much interest to the emergency surgeon. It was brought before this society mainly for the purpose of the liberal discussion which should follow.

In reviewing some of the literature of the past five years, we note that a great deal has been written about trauma to special organs, but very little about the subject as a whole. It is somewhat humiliating to the careful observer to read in the newspapers, and on death certificates, the cause of death due to internal injuries. . . .

The most important quality of education is flexibility. Flexibility is allied to play. Play is the essence of adaptability, and there is no prescribed pattern for it. Opportunities must be used as they come along.—Boyd H. Bode (1932).

BOARD OF MEDICAL EXAMINERS

(Continued from Text Page 104)

antitoxin or split protein. It adds that the use of a hypodermic syringe and needle is taught in chiropractic schools in connection with certain subjects." (San Bernardino *Sun*, May 25, 1935.) This is another example of the claim of licensed chiropractors that they are entitled to practice chiropractic as taught in chiropractic schools.

"Dinitrophenol caused one more lawsuit yesterday. In an action in which $50,000 is asked, Mrs. Marjorie Treadwell Magowan, widow of Robert Cleveland Magowan, young attorney and contractor, alleged that the powerful reducing compound, which burns fatty tissue from the body, had caused Mr. Magowan's death. . . ." (San Francisco *Examiner*, June 6, 1935.)

"An overdose of reducing tablets almost cost another life in Oakland yesterday. Mrs. Marion Baymiller, thirty-five, of 479 Merritt Avenue, wife of a San Francisco agriculture expert, was stricken in her home and rushed semi-conscious to the Alameda County Emergency Hospital. She had consumed tab-

(Continued on Page 17)

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BOARD OF MEDICAL EXAMINERS

(Continued from Page 15)

lets containing dinitrophenol and prepared by a San Francisco pharmacy, according to physicians. . . . ." (San Francisco *Examiner,* May 12, 1935.) (Previous entries, August and September, 1934.)

"Few people realize how little control the Government has over advertising of dangerous and mislabeled products in this country. . . . M——— is a well-known patent medicine, sold as a 'cure' for obesity. It is on the shelves of practically all drug stores. It happens to contain a thyroid substance and may result in the serious illness, or even death, of the user unless administered under the constant and vigilant direction of an experienced physician. This and many other products equally dangerous are sold over the counter; and one reason why Braintruster Tugwell has been so thoroughly damned is because he has sought legislation to guard the public against dangerous food and medical products, false and misleading labeling, and untruthful advertising of such products. M——— makes a great deal of money for its owner and has been advertised over many radio stations. Last month the Federal Communications Commission threatened to take licenses away from twenty-one radio stations from the Atlantic to the Pacific Coast if they did not cease broadcasting M——— advertisements. . . ." (Monterey *Herald,* June 5, 1935.)

"A bill forbidding the radio broadcasting of false statements concerning foods, drugs or cosmetic products was tabled in the Assembly Medical and Dental Laws Committee yesterday. The measure is Assembly Bill 188, by Boyle. The penalty of a fine ranging from $100 to $1,000 and imprisonment not exceeding two years would have applied to the manufacturers and not to the broadcasting station operators." (Sacramento *Bee,* May 8, 1935.)

"Her face was so disfigured by a face-lifting operation that she never could remarry, Mrs. Lena Saxon charged in a $145,000 damage suit filed yesterday in Superior Court. . . ." (Los Angeles *Illustrated Daily News,* May 17, 1935.)

"Police teletype messages received today by the San Mateo Police Department tell of the arrest in Nashville, Tennessee, of Dr. J. W. Melville, wanted in San Mateo on a bad check charge from last year. . . . Doctor Melville, according to the San Mateo police reports, disappeared with the money to Los Angeles. He was traced there and got into difficulty in Pomona. His arrest today was by Department of Justice men. They will press their charge." (Burlingame *Advance Star,* May 8, 1935.) (Prior entry, December, 1933.) J. W. Melville is not licensed in California and his name does not appear in the 1934 American Medical Directory.

(Continued on Page 20)

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(Continued from Page 17)

"Dr Laurance Christian Spangard (licensed as an osteopathic physician and surgeon) unnecessarily injected arsenic into the veins of Birger DeBulow, screen writer, according to a jury in Superior Judge Warren V. Tryon's court, which yesterday gave a $25,000 damage verdict against the physician. DeBulow charged that at the time Spangard was aware that DeBulow had made the physician principal beneficiary in a will which disposed of approximately $95,000." (Los Angeles *Illustrated Daily News,* May 15, 1935.) "A motion for a new trial in the $189,670 damage suit brought by Birger DeBulow, World War veteran and screen writer, against Dr. Laurance Christian Spangard . . . was ordered submitted on briefs by Superior Judge Warren V. Tryon today. Doctor Spangard's attorney made the motion, contending that the $25,000 verdict returned by the jury . . . was not supported by evidence. . . . The physician denied the charges, declaring that he had treated DeBulow for an illness along ethical lines." (Hollywood *Citizen News,* June 7, 1935.)

"Speaker Edward Craig today named a committee of five assemblymen to study compulsory health insurance legislation and submit a report to the next session of the legislature. Assemblyman H. Dewey Anderson of Santa Clara County was named chairman. The other members are Assemblymen James McBride of Ventura County, Thomas Cunningham of Los Angeles County, Gordon Corwin of San Bernardino County, and Ralph Wallace of San Diego County." (Sacramento *Bee,* May 23, 1935.)

"Hopelessly deadlocked after ninety-eight hours of deliberation, a jury hearing the trial of four defendants on charges of second degree murder, in connection with the death of a 20-year-old bride, was dismissed at 5 p. m. yesterday by Superior Judge Charles L. Allison. . . . The four defendants were in court when the jury returned its inability to render a decision. They were accused of the death of Margaret Lee Warren in an asserted illegal operation. The defendants were Dr. Scott H. St. Clair, Dr. Clyde A. Pierson, T. V. Warren, the girl's husband, and Mrs. Leona Durbin, a nurse. . . ." (San Bernardino *Sun,* June 5, 1935.)

On June 10, 1935, a suit was partially heard and continued in the San Francisco Superior Court "In the Matter of the Application of M. James McGranaghan (D. C.) vs. Dora Berger, Intervenor and Defendant, for Declaratory Relief" (Superior Court No. 257362), wherein M. James McGranaghan will again attempt to obtain a court decision allowing chiropractors to practice chiropractic "as taught in chiropractic schools and colleges." His prior attempt in the case of Mons Evans vs. M. James McGranaghan failed to develop the decision desired by the group of liberal chiropractors. (Previous entry, March, 1935.)

D. F. Hyder, D. C., was on May 22, in the Justice Court of Glendale, charged with violation of Section 15 of the Chiropractic Act, but he has not been apprehended, according to reports. It is said that at his place of business in Montrose he had a sign reading, "Dr. D. F. Hyder, Physician and Surgeon, D. C."

Reports relate the arrest of Rafela Martinez, Mexican midwife, on May 15 in Imperial County, her plea of guilty and sentence to sixty days in the county jail, suspended on condition she not violate the Medical Practice Act, the Vital Statistics Act, or any State health law.

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The Population Prospect and Some Agricultural Implications. — *The National Population Prospect.* In 1924 about 2,900,000 children were born in the United States. Each year since a decrease has been recorded, except in 1930 and probably the past year, 1934. The decrease during the decade has exceeded 20 per cent. This decrease in births averaged 55,000 a year from 1924 to 1930 and 100,000 a year from 1930 to 1933. How long will this decline continue and what does it mean to American agriculture?

The trends in both the United States and in Europe suggest that this decline in births will continue for many years, though probably at a slower rate than during the depression. The birth rate in the United States (but not number of births) has been declining for more than a century. The decline started in southern New England, with the building of the factories, about the year 1800, and spread with the development of industries and growth of the cities, until now only in a few counties located in the southern Appalachian Mountains is it as high as it was in the nation as a whole in 1800. The nation's birth rate is only about one-third as large now as it was a century and a third ago.

Although the birth rate per one thousand population has been declining for more than a century, the total number of births did not trend downward until 1922, because there was each year an increase in number of mothers, the heritage of the higher birth rate and heavy immigration of the past. Now number of births as well as birth rate is decreasing, and a declining population is ultimately inevitable, unless the birth rate rises or immigration increases greatly. If the decline in births continues at the predepression rate of 55,000 a year, the population of the nation will increase slowly for about ten years, when there will be perhaps 5,000,000 more people in the nation than at present, and will soon after start to decline, provided there is no increase in immigration from abroad. In northwestern Europe, population has already reached

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the peak and will start to decline within a few years. unless births or immigrants increase. The peak in number of births in both England and Germany occurred in 1908, or thirteen years earlier than in the United States.

The declining birth rate appears to be associated primarily with city life. In agriculture the family is the economic unit, whereas in urban occupations the individual is the economic unit. A wife is almost essential to success in farming, while children can help with the work and probably pay their way from ten years of age onward. But in the cities a wife brings in little or no cash income unless she works outside the home, while children generally require constant outlay from birth almost until marriage. Moreover, the cost of raising children in the cities is commonly two or three times that in the country. This economic situation is reflected in social ideals. Formerly families having four or five children were common even in the cities. Now, the customary number of children is one or two. But it requires three children per mother to maintain population stationary. Some children die before they marry, others never marry, and some who are married never have children.

The deficit in births is urban. In the large cities of the United States (those over 100,000 population) there are now only about two-thirds enough births to maintain their populations permanently stationary without accessions from outside. In the smaller cities, those of 2,500 to 100,000 population, the deficit is 10 to 20 per cent. On the other hand, in the rural non-farm population (village and suburban) there is about 25 per cent surplus in births and in the farm population nearly 50 per cent surplus. In every state the birth rate, as measured by the number of children under

(Continued on Next Page)

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(Continued from Preceding Page)

five to women fifteen to forty-four years of age, is lower in the urban than in the rural population, and this is true also of every country of Europe for which statistics are available; also of Australia, New Zealand, and Japan. This urban influence is not confined to capitalistic countries. In Russia the rural birth rate is about the highest in the world, but in Russian cities the decline in young children is already notable.

In the cities the deficit in births is principally among the so-called middle and upper classes. In general, families of professional classes have 5 to 10 per cent fewer children than those of business men, and business men about 25 per cent fewer than skilled workmen, while skilled workmen have 30 per cent fewer than unskilled laborers. The deficit in births in the cities is among the more ambitious and intelligent people. The qualitative aspect of the declining birth rate is fully as significane as the quantitative.

The Population Prospect, Rural and Urban.—Because of the surplus of children in the country and the deficit in the cities, because of progress in agricultural technique which has permitted a stationary number of farmers to feed a rapidly increasing city population, because of a stationary consumption of food per person, while the people's desires for many manufactured goods and various services knows almost no limit, nearly half the young people on the farms were migrating to the cities for at least twenty years prior to the depression. The cities have fed, clothed and educated only about 40 per cent of the youth that started to work each year before the depression in their factories, stores, and offices. Twenty per cent were immigrants from foreign lands, and 40 per cent were supplied, almost without cost to the cities, by the fathers and mothers living in the rural regions of the United States.

This migration of rural youth to the cities is now greatly diminished. Indeed, during the depression more people have returned to the farms than have left

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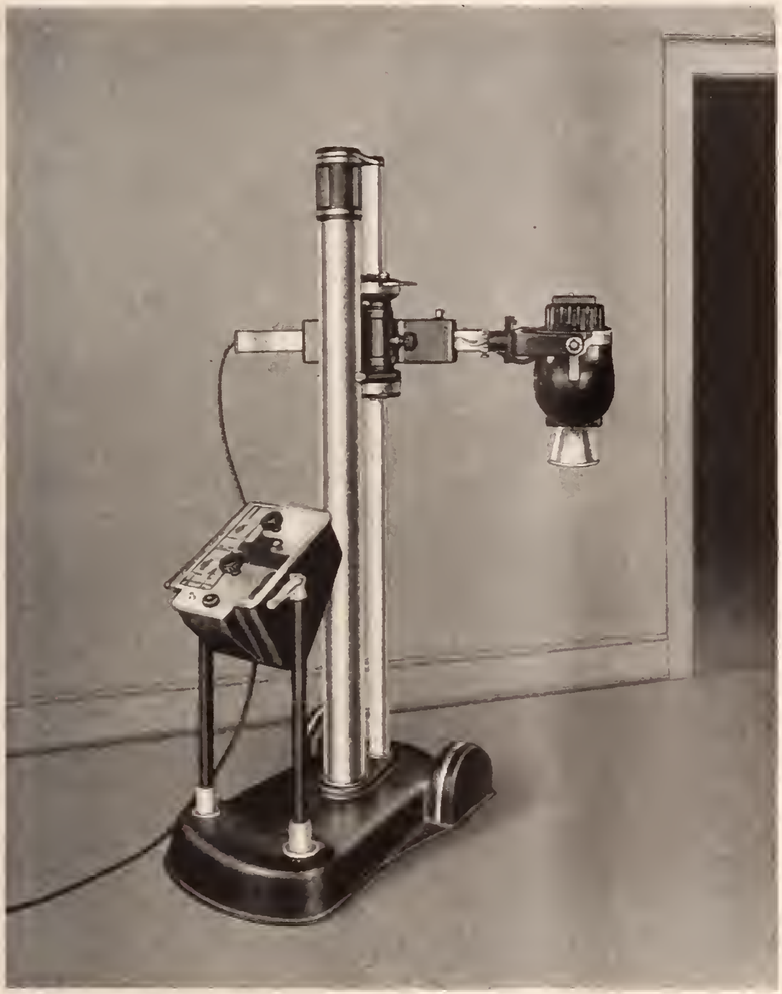

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(Continued from Page 24)

the farms. Fully two million young people are now backed up on farms who would under predepression conditions have migrated to the cities. While the population of the large cities remains stationary or declines, the farm population, which decreased from 1920 to 1930, is now increasing rapidly.

Moreover, whereas the farm population was growing older prior to the depression, because of the migration of half the youth, it is now growing younger. And the city populations, which were then growing younger, are now growing older. Between 1920 and 1930 the number of people over sixty-five years of age increased 50 per cent in the urban population, and this increase will continue for several decades. There are manifold more middle-aged than old people in the cities, and very few are returning to the farms seeking shelter and sustenance—most of their parents and relatives are dead. As these middle-aged people grow old, the aged in the cities will increase rapidly. At the same time the number of youth will decline, unless migration from the farms is resumed. And the surplus rural youth can no longer counterbalance the urban deficit.

The youth on the farms are also growing older and beginning to establish homes. The farm schedules from the 1935 census of agriculture have now been returned for over nine hundred counties—nearly one-third of the total—and they indicate an increase since 1930 of about 10 per cent in the number of farms in the nation. The area of crop and pasture land undoubtedly has decreased. Many farms, apparently, are being divided. Agricultural production also has decreased. Production per worker evidently is falling, instead of rising, as in the past. But it is better to produce less than to produce nothing at all, as is true of many urban unemployed.

Agricultural Implications of the Declining Birth Rate.—There are three profound implications for agriculture in the population prospect:

1. An almost stationary domestic demand or need for farm products during the next decade or two. The population of the nation is nearly stationary. Aggregate consumption per person of farm products has been practically stationary for at least a third of a century. Moreover, exports of farm products appear to have reached a new and lower level.

2. If migration from the farms to the cities is not resumed in numbers approaching predepression magnitude, there will soon be a decreasing urban population (unless urban births or immigrants increase) and an increasing farm population. This means, first, a decreasing commercial and increasing noncommercial consumption of farm products. It means, secondly, an increasing number of farms and probably decreasing acreage per farm. It means, thirdly, a lower standard of living for many farmers, unless they produce themselves more of the things they have been accustomed to buy.

(Continued on Page 28

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(Continued from Page 26)

3. If migration from the farms to the cities is resumed it will hasten the decline in the national population, and in resultant requirements for farm products. It will merely postpone the inevitable adjustment in the economic activities and social ideals of the farming people.—A radio talk by Dr. O. E. Baker of the Bureau of Agriculture Economics, United States Department of Agriculture, Washington, D. C.

Drug Cases Bring High Fines.—Prosecutions for violations of the Federal Food and Drugs Act, terminated recently, brought fines aggregating $2,644, the Food and Drug Administration reports. The highest fine was $1,000, assessed against T. M. Sayman, self-styled herb doctor, who made a fortune commercializing a common plant of the American Southwest, called the "soaproot" or "Spanish bayonet." "Doctor" Sayman, whose business was a combination of mail order and local concessionary salesman, paid the entire fine in one and two-dollar bills.

The T. M. Sayman Products Company, St. Louis, Missouri, of which "Doctor" Sayman is practically the sole owner, had shipped in interstate commerce products known as "Sayman's Healing Salve," "Sayman's Vegetable Wonder Soap" and "Sayman's Liniment." The salve, composed of camphorated petroleum jelly, zinc oxid and boric acid, was offered as a treatment for eczema and other skin diseases, chronic old sores, and ulcers of the nose, throat, lungs and stomach. The soap, a vegetable oil soap, was to be used along with the salve in its external uses. The liniment was a mixture of red pepper extract, camphor, sassafras oil, chloroform, alcohol and water, but the labels claimed it to be a remedy for rheumatism, kidney diseases, pleurisy, tuberculosis, grippe, toothache, croup, cramps, hay fever, earache, deafness, ulcers, snake bite, horse colic and whooping cough. All these claims, the government alleged, were false and fraudulent and, there-

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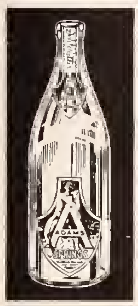

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fore, in violation of the Food and Drugs Act. Sayman did not contest the Government's findings and allegations.

In the early part of his career, Sayman conducted a traveling medicine show. With the growth of his business, he came under the scrutiny of officials in Washington, and was fined $50 in 1915 and $40 in 1917, and several lots of his "Wonder Herbs" were seized and destroyed in 1924.

The Continental Drug Corporation of Alton, Illinois, responsible for the shipment of fourteen lots of substandard drug products, such as witch hazel, carbolic acid, paregoric, turpentine, mercurochrome, camphorated oil, cod liver oil and castor oil, was fined $420. Products of this nature, commonly used in the home, are standardized by law in the United States Pharmacopeia and the National Formulary, and variation from the legal standard is punishable as a violation of the Food and Drugs Act when the non-standard articles enter interstate commerce. The purchaser of the common household remedies is in this way protected against cheats and against the danger of false security. There is no comparable federal standard authority for food, except butter.

The value of the legal standard for butter, is illustrated says the Food and Drug Administration by cases recently terminated. Wilmer E. Scott of Philadelphia, Pennsylvania, was fined $25 for having shipped 180 pounds of butter which government analysts found to run 15 per cent below the legal butterfat content. The product was adulterated with water. Other terminations of prosecutions for low-fat butter are: Clark's Creamery, Albion, Nebraska; Alma Creamery Company, Alma Missouri; Eustis Coöperative Creamery Company, Eustis, Nebraska, and McKenzie Milk Products Company, McKenzie, Tennessee, fines of $25, $25, $50, and $100, respectively.

The labeling of "Cereal Meal," manufactured by the Cereal Meal Corporation, St. Louis, Missouri, was admitted to be fraudulent, and the manufacturer was fined $270 for having shipped the "meal" to San Francisco, Denver, Chicago, and Boston, at which points it was seized. "Cereal Meal," a mixture of bran and other wheat products, linseed meal and agar agar, was recommended for use in cases of indigestion, chronic appendicitis, and intestinal inflammation and catarrh. These claims were alleged to be false and fraudulent, since they promised more than could be expected of the article, and the name was held to be false and misleading, as ingredients other than cereals were present.

Patent medicine cases recently terminated also included that against the White Herb Manufacturing and Remedy Company, Dr. John S. White, proprietor, who had shipped "White's Herb Tonic," a mixture of water, plant extractives, and less than one per cent of alcohol. The alcohol was insufficient for preservation of the mixture, and live yeast and mold were found upon analysis. The product was labeled as a system

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(Continued from Preceding Page)

builder to be used in cases of syphilis, blood poison, rheumatism, kidney and liver troubles, pellagra, indigestion, women's diseases, gall-stones, influenza, appendicitis and scrofula, in which conditions it would be worthless. A fine of $50 was assessed.

Russell M. Evans, trading as Etsam Manufacturing Company, Hatboro, Pennsylvania, was fined $25 for having shipped his product "Etsam" bearing false and fraudulent claims for gall-stones, liver, stomach and gall-bladder trouble, palpitation of the heart, jaundice, neuralgia, poor circulation, appendicitis, and other conditions. "H. G. C.," labeled as an antiseptic but found to be not antiseptic, brought a fine of $90 to the Acme Chemical Manufacturing Company, Ltd., and a fine of $10 to William T. Jay, its promoter, of New Orleans, Louisiana. The Scientific Manufacturing Company, Scranton, Pennsylvania, shippers of "Pheno-Isolin," were fined $30 when they decided not to contest the Government's allegation that "Pheno-Isolin," a mixture of fish oil, rosin, turpentine, camphor, menthol, and thymol, would be ineffective in cases of infections, swellings, fever, tetanus, sore throat, sore mouth and gums, coughs, boils, carbuncles, ulcers and pyorrhea, for which it was recommended. "Sanovapor Dexene," bearing claims for diabetes, was also adjudged misbranded, and the Sanovapor Laboratories, Huntington, West Virginia, the manufacturers, were fined $100.

Other prosecutions reported closed are as follows: Summit Packing Company, Inc., Wellsboro, Indiana, tomato catsup containing mold, fine $1; Fairmont Creamery Company, Dodge City, Kansas, decomposed frozen eggs, fine $100; Daniel S. Gamble, Brewster, Washington, apples bearing poisonous spray residues, fine $50; Josey-Miller Company, Inc., Beaumont, Texas, short weight corn meal, fine $3; Anticich Packing Company, Biloxi, Mississippi, canned oysters containing excess brine, fine $100; W. E. Mathes Vinegar Company, Middleport, New York, "cider" vinegar composed of a dried apple extract and dilute acetic acid, fine $250; William S. Merrell Company, Cincinnati, Ohio, substandard pharmaceuticals, fine $170; and Southern Druggists Exchange, Atlanta, Georgia, substandard citrate of magnesia solution containing Epsom salts, fine $100. The products involved in these cases had been seized prior to prosecution of the responsible parties.

New Cure for Stubborn Wounds Results from Clue Given by Fly.—From a clue provided by an insect, entomologists of the United States Department of Agriculture have discovered a new way to heal stubborn wounds quickly, painlessly, and cheaply. The new treatment is the application of a solution of allantoin, a bland, odorless, harmless, and easily obtained product found in both insects and plants.

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The insect that gave the clue to this discovery is one of the flies—in the maggot stage—that gained fame as a medical aid on World War battlefields, where an Army doctor found that wounds infested with maggots healed better and faster than wounds without them. Since then surgeons all over the world have used maggots in treating deep infections difficult to cure by ordinary surgery.

Government entomologists, who have developed methods for rearing and shipping sterile maggots to hospitals, have at the same time sought the secret of this maggot's power to heal. Dr. William Robinson of the Bureau of Entomology and Plant Quarantine now finds that allantoin, which is given off by the maggots as they work their way through a wound, is responsible for part of this power. Allantoin, Doctor Robinson says, is not a new discovery. Dr. C. J. Macalister, who used it successfully twenty-three years ago for ulcers, reported that European peasants had long applied the roots of comfrey, which contain allantoin, to sores.

His recent tests, Doctor Robinson says, show that allantoin is particularly useful for non-healing wounds, such as chronic ulcers and extensive burns that refuse to mend. After a few treatments, pinkish granulation tissue begins to grow and soon the tissues are knitting together rapidly. A specially promising feature of the new treatment is that it can be made to control healing. Healing from the bottom up can be insured in a deep wound by applying the allantoin solution in a small packing at the base of the wound and covering the sides with vaseline. General granulation can be promoted by filling the wound with gauze well saturated with the solution.

Doctor Robinson made his recent discovery by putting two and two together, he says. He knew that no organism, except man, does anything with the sole purpose of helping another organism. He knew also that ground embryonic tissue taken from various animals has healing properties and that allantoin is present in such tissue. Therefore, he reasoned, maggots heal man's wounds through some involuntary act—perhaps excretion—and possibly such excretions contain allantoin. Tests in the laboratory and practical applications in Washington, Pittsburgh, and New York hospitals proved the soundness of his conclusion that part of the maggot's healing power lies in the allantoin it pours into a wound.

Dr. Alderson announces the reorganization of his office staff with the following personnel:

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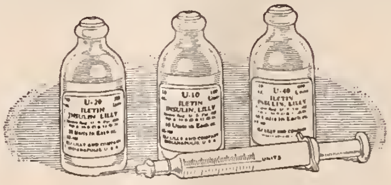
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ANEMIAS, EXPERIMENTAL AND CLINICAL*

By GEORGE H. WHIPPLE, M.D.
Rochester, New York

MR. PRESIDENT, Ladies, and Gentlemen: I wish to thank the president for his pleasant words of introduction, and I need not assure you that it is a great pleasure for me to come back to this State of California, where I have, perhaps, more intimate and close friends than in any other part of this country.

As your president has said, the work was begun here in California with Doctor Robbins and Doctor Hooper, and has been carried on since my removal to Rochester, by Doctor Robbins and other associates there. I wish to mention particularly Doctor Oehlbeck and Doctor Daft, who have been concerned with some of the more recent developments.

WHY THE DOG WAS USED FOR THESE STUDIES

In speaking before a group of practicing physicians, a laboratory investigator is a little at a loss to be sure what may be of particular interest, and I would like to make this talk of interest to you, obviously, and I have tried to pick out things that seem to me to have a bearing on medicine, although I would remind you again that I am a pathologist and have had no direct contact with patients. All my work has been done in the laboratory, with the dog as a constant companion. I may say that in some ways I feel the dog is perhaps a better patient than some that I hear about.

THE STANDARD ANEMIA DOG

This standard anemia dog I shall have to refer to today is something we have gradually worked out. The dog is raised and bred in the laboratory, a standard strain. He is kept under uniform conditions until he attains his growth at about the end of a year. He is vaccinated against distemper. He is taken care of in the most meticulous fashion so that we may control all possible variables. Then we begin to standardize him, and he is reduced to one-third the normal hemoglobin level for the dog and is kept there for the rest of his life, some of them having been under observation for ten or eleven years continuously anemic.

Those dogs react in a constant and uniform fashion to standard diet intakes, good, bad, and indifferent; and, as you know, liver stands at the top of the list. In fact, a dog will react uniformly the first year, the fifth year, and the tenth year, and we have many instances of that character of material that has been reported from time to time.

BONE MARROW VOLUME

I would like to mention bone marrow volume. I find from inquiry that students and people who do not concern themselves particularly with marrow have a rather vague idea as to what marrow volume really is. Anywhere from 10 cubic centimeters up is about the usual impression as to marrow volume. The highest figure I have ever heard was that the volume might be equivalent to that of the spleen.

Because we had to know something about the marrow volume in these experimental animals, the necessary work was done. It is difficult and time-consuming, but it can be done with some accuracy if you have the patience.

In the type of dog we use, the bone marrow volume amounts to about one-half to two-thirds the volume of the liver. The normal spleen is about one-tenth the volume of the liver, so you can readily see that the bone marrow volume in these animals is from five to seven or eight times the size of the spleen. If the bone marrow were only in a nice, isolated lump like the spleen, it would have a very much more respectable position in our knowledge of pathology; but it is all scattered about, and is in a difficult position. Methods are difficult to study it, and for that reason we do not know as much about the bone marrow as we might. But that is the way it is in the dog, a half to two-thirds the volume of the liver, quite a respectable size, and from occasional determinations in humans it appears the same thing is true of the human being, or at least very much the same. It has also been done for rats and monkeys, and the figures are very similar there, too, so I think we can look upon that figure I have given you as a fair estimate.

"MARROW EXHAUSTION"

You have read a lot about marrow exhaustion—at least I have—and it has been said that repeated small hemorrhages would bring about marrow exhaustion. Maybe it will, but we have never had the good fortune to see anything of that sort, and we do not believe it occurs in the normal animal and, therefore, in the normal human there is probably the same rule.

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* Address given at the second general session of the California Medical Association, at its sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1935.
Editor's Note: The address as here printed has been transcribed from the stenographer's report.

A dog, anemic ten years continuously, being bled from one to five times during each week of his life, you might say had been subjected to repeated small hemorrhages for quite a period, a period that in the human would represent fifty or sixty years of life. That brings about no marrow exhaustion, so I am rather skeptical about marrow exhaustion in general.

In the adult, dog or human, there is a very nice adaptation of bone-marrow spaces. In the adult, not all the bone marrow area is filled with active red marrow. A good deal of it, as you know, is filled with fat. If there is a call for increased activity of the bone marrow, the fat is replaced by red marrow cells. After that call has been set aside and they return to normal, fat cells will replace this red marrow, a very beautiful adaptation. I think sometimes the surgeons wish that something like that might happen in the skull when they are dealing with structures there.

When this adaptation occurs in these dogs, you might say, "Well, now, if a dog is anemic continuously for all these years, naturally he would fill up all the standing room; every bit of marrow space ought to be filled with red marrow." We expected to find that. In a few dogs we did find it, but when we began to examine all of the animals carefully we found that rule did not work at all. In other words, there is another controlling factor that controls the bone marrow spread that results from anemia. There is a spread, and it may take up all of the marrow space in the skeleton of that individual, the dog or the human. Again, a litter mate having anemia of the same duration and the same character, and every factor we can control of a similar nature, instead of showing 100 per cent replacement of marrow spaces by red marrow, will show perhaps only 60 per cent; sometimes only 50. So it is obvious that some other factor besides standing-room determines how wide the marrow spread may be. We have gradually come to the conviction that the supply of intermediates of prehemoglobin material made available by that particular animal determines the extent of the marrow that will develop to carry this load through this period of anemia. Probably some marrow cells are much more efficient in turning out red cells than others, just like some dogs have muscles that are much more powerful, where they are more active in running or in any other energy effort.

What about bone marrow exhaustion? It is obvious to you as practicing physicians that sometimes bone marrow does not react properly to substances that ought to form plenty of hemoglobin. Why should that marrow be disturbed in that way, inefficient or partially paralyzed? We got interested in this in an indirect fashion, and it pointed toward infection, and of course infection obviously disturbs arrangements in internal metabolism, and probably has a good deal to do with some of these disturbances of the functioning capacity of the bone marrow.

We thought we could approach it in another way, so we began to take dogs that had been carefully standardized and subjected them to sterile abscess formation, which is a very simple procedure and will be recovered from promptly. The sterile abscess heals up very shortly after it has been opened, or has broken. We got evidence there that was pretty definite, but not very striking, that the sterile abscess production would cause depression of the normal output of hemoglobin of that standardized dog.

AN ACCIDENTALLY PERFECT EXPERIMENT

But the experiment that was a perfect experiment, as sometimes happens in the laboratory, was pure accident. I will tell you about it because it seems to me it is quite interesting in this connection. It was a dog that was one of our very best animals and had been used for metabolism study. We knew to a gram the amount of hemoglobin we could expect to have produced by that animal under given conditions. It had been used in a metabolism experiment, and shortly thereafter this standard reaction of the animal was observed to be falling off. The animal, clinically, was apparently well, although there was some increase in the white count. It ate its food, maintained its weight, and for about six months showed a steadily-falling curve of hemoglobin production, until it came to a point where on a standard liver diet intake, instead of putting out fifty grams a week, as it had always done previously, it did not put out any. It just maintained itself, and on the basal ration there was a fall in hemoglobin without any bleeding at all.

We became much concerned and called in some celebrated consultants and they could not make much out of it, but we thought we had better do an exploratory. There was a little vaginal discharge. An exploratory was done and a greatly enlarged uterus was found. This was removed and the animal made an uninterrupted recovery. Within a week it was right back at the original level of hemoglobin production at which we had carried that animal for six years continuously anemic.

On examination of this enlarged uterus there was found a chronic or subacute endometritis, with great masses of plasma cells, mononuclear cells filling up the submucosa. The mucosa was greatly folded, swollen. In other words, we had an inflammation that had been present since the period of the metabolism test. That called for catheterization. The person doing the catherization was inexperienced and had introduced the catheter into the uterus several times in searching for the urethra. In the female dog that is a very easy thing to do.

We thought we would repeat this, this being a perfect experiment. We do not see many. We would like to see one other. We have tried very hard, but so far we have not been able to repeat. In other words, it was a pure accident, a perfect experiment, to my way of thinking, showing that long-continued, low-grade infection, not severe enough to cause loss of appetite, may so disturb the mechanism of forming hemoglobin and red cells as to reduce it practically to the level where it can only fulfill maintenance requirements on the best type of diet for producing hemoglobin.

RESERVE STORE MATERIALS

It is important to know that in dogs, as well as in humans, there is considerable reserve store materials, and we mean by reserve store materials probably not hemoglobin or red cells, but reserve materials stored in the body out of which the animal in an emergency may make a lot of new red cells and hemoglobin. I will show you a chart that will illustrate very well what I mean by this reserve store.

PRESENTATION OF CHARTS AND SLIDES

(*Chart is thrown upon the screen.*) This chart shows the experiments on eight dogs which were placed on a diet of liver and bled immediately after weaning. When they had attained maturity, at about ten or eleven months of age, they were then bled carefully to remove all the necessary blood cells and hemoglobin to bring them down to one-third the normal level, which is our standard base line for the anemia dog. If there was no reserve present, the necessary amount to be bled should be roughly two-thirds of this (236). As a matter of fact, they are bled down to this level (66), and to do that you have to remove more hemoglobin than was present on the average in these animals before the anemia was begun. So that the sum of the hemoglobin remaining in circulation, plus that removed, minus what was present, obviously represents the reserve store, or 115 grams. One hundred and fifteen grams of hemoglobin is quite a large order. It could not be stored in the liver as protein, because there is scarcely that amount in this sized animal if all the liver protein was to be made into hemoglobin. Obviously, then, some of it must be stored somewhere else, possibly in the muscles. It can probably be taken from the circulating plasma proteins, but at any rate it is a reserve that is very convenient and is used in emergencies. In studies from anemia experiments, this reserve confuses deductions which may be made as to therapy.

If the animal, instead of being raised on a diet rich in liver after weaning, is raised on the standard bread, that reserve store will amount to about thirty grams. On meat, instead of the standard bread, the reserve will be about seventy grams; but it is an item that must be taken into consideration, and is of interest to people who may be treating anemias that result suddenly for one cause or another.

I want to speak briefly about iron therapy.

(*Slide is thrown upon the screen.*) The next slide will give you two points that are of interest. That is to say, forty milligrams of iron given every day for two weeks will result in about fifty-three grams of hemoglobin output during that period. If you make it ten times more, you just about double, not quite, the output. Either that iron cannot be used, or else it is not taken in. There might be considerable debate on that point, but possibly the next slide will throw some light on that.

(*Slide.*) I do not know that you can all see this slide, but the gist is that during these two weeks iron is given intravenously, so at least we know it got into the circulation, and the total amount as iron was 700 milligrams. If that should be changed quantitatively to hemoglobin, it would amount to 210 grams of hemoglobin. That is the equivalent of 700 milligrams of iron.

During this period the animal was able to put out, on a basal ration, fifteen grams a week for eighteen weeks or 270 grams. The total actually removed from this dog during this period of eighteen weeks was 503 grams. In other words, that iron was quantitatively recovered, and quite accurately for this type of experiment.

We have repeated this with various amounts of iron given intravenously over different periods of time in these carefully standardized dogs, and we have convinced ourselves that iron given intravenously in an animal that needs iron, such as an animal that is continuously anemic, that animal in health will return quantitatively that iron as hemoglobin on the basis of ten milligrams of iron to three grams of hemoglobin—a chemical basis. It does not make any difference what kind of iron you give a dog or inject in a dog, as far as we can determine.

What about the iron that is given by mouth? This evidence would indicate to us that in these animals the reaction shows the amount of iron that is absorbed. It is obviously true that as you increase the amount of iron given, you do not increase in the same measure the amount of iron absorbed.

The factors that influence the absorption of iron are extremely interesting. Doctor Schmidt touched on that point relative to the absorption of the important vitamins, showing that bile salts are concerned. We believe bile also is concerned with the absorption of iron, but just to what extent and what portion of bile, whether bile salts alone or not, we are not prepared to say.

That concludes what I have to say about experimental anemia, and I thought it would be interesting to you to relate briefly something about a very peculiar type of human anemia in which Doctor Bradford and I have been interested for several years.

I will tell you why this anemia is interesting. It used to be called von Jaksch's anemia, but that does not mean anything. It was carefully and accurately described by Cooley, and is sometimes called Cooley's anemia, or erythroblastic anemia. It occurs in people dwelling around the Mediterranean, and we have used the term "Mediterranean anemia," or thalasemia. That is a nice little term that is derived from the same source. It is a peculiar anemia. There is peculiar pigmentation of the viscera, very like that seen in hemochromatosis, which interested Doctor Sprunt many years ago. It has peculiar findings in the bone marrow that suggest scurvy. It is racial; it is familial. I think it is one of the most interesting clinical puzzles I have ever had the opportunity to study. There must be a good many cases in this community, because in every community where Italians, Greeks, and Spaniards live this type of anemia is to be found.

It develops in early childhood; usually is fatal within five or six years; sometimes not. The cases that recover are going to be extraordinarily interesting to study. There is reason to believe that it may be due to some missing factor which possibly may be found and, therefore, replaced with a curative effect. For that reason I assure you it is an interesting type of anemia, and I should like to illustrate it briefly by a series of slides.

(*Slide.*) The children have a peculiar expression which some people say is Mongoloid, but the clinicians are able to recognize these cases with great accuracy. They are very apt to have a large spleen after the disease is well established.

(*Slide.*) One of the interesting things is the peculiar radial striation in x-rays of the skull. That comes out very beautifully here. I do not know that you can see it at a distance, but the x-ray pictures of the bones are quite characteristic.

(*Slide.*) The long bones do not show well here. They show peculiar mottlings, and when you study the bone marrow and the histological appearance of this, you see there has been a great deal of disturbance of the bony structure within the long bone. Some of this disturbance resembles a picture in scurvy.

(*Slide.*) Here are some museum specimens showing the peculiar striation in the coronal section through the calvaria.

Here is a section through the rib showing the red marrow, the great thinning of the shaft and the fact that there is some marrow underneath the periosteum.

(*Slide.*) The pigmentary deposit has interested me very much and, as I said, it resembles in its distribution the pigmentary arrangement in hemochromatosis. Here is the pancreas with an island, and this black material represents iron-stained material in great amounts in the epithelium of the acini. It occurs very little, if at all, in the islands, but seems to occur in the neighborhood of the islands. This pancreas may attain such a degree of pigmentation as to have a true rusty color in gross, and it is just loaded with iron. It may contain enormous amounts of iron by analysis.

(*Slide.*) This shows a high magnification picture of the pancreas, and these masses stained black are iron deposits within the epithelium of the acini. Occasionally phagocytes in the stroma will contain iron material released from destroyed and degenerated acini that have been loaded up with the iron.

(*Slide.*) This interesting deposit is here in the stomach. This is the muscular wall of the stomach, and here are the glands deep down in the mucosa, and here is the surface of the mucosa, and down deep in the glands you will see a heavy deposit of iron-staining or iron-containing pigment within the epithelium.

(*Slide.*) The liver may be so heavily pigmented as to have a color like that of maple sugar, just as in hemochromatosis. It may have as much iron per 100 grams, by analysis, as a case of hemochromatosis. You see here, these cells are all loaded with black granules, the iron reacting pigment. In the cases that have developed and lasted for many years, you may see a good deal of pigment in the stroma, and an increase of pigment with an early type of cirrhosis, just as you have in hemochromatosis.

(*Slide.*) This shows a spleen with malpighian bodies here and peculiar foamy-looking cells that resemble those of Gaucher's disease. However, the picture is in no way like that in Gaucher's disease, except for these occasional islands of foam cells, which do contain a considerable amount of cholesterol. The spleen may subsequently become very fibrous and hard, enormously enlarged, and may weigh more than the liver. It may be removed, and apparently causes little disturbance one way or the other. There may be erythroblastic crises after splenectomy.

(*Slide.*) This shows the bone marrow, which presents a variety of appearance. There may be nests of lymphocytes in places. There may be areas of bone marrow that look like simple hyperplasia, and there may be nests in the bone marrow that show these same foam cells. This is not a characteristic, but an unusual field. There is tremendous hyperplasia of the red cell elements, and a great many phagocytes are present.

The bony trabeculae are disturbed, as I said. The shafts are decreased in strength, and there may be deposits of bone marrow cells beneath the periosteum, particularly of the ribs.

(*Slide.*) This chart just shows that this child was followed from birth in a hospital, and about the fifth month they began to notice things were wrong with the patient; that it had anemia, and before long it was recognized as a characteristic case of thalasemia. This is the Mediterranean anemia. This was followed, and every conceivable thing done to attempt to modify that anemia, without success. All the gland therapy that could be suggested was tried, because the parents were very eager to have everything tested, as there was another child in the same family. In spite of everything the child died, and some of the material you have seen came from this particular case.

If we could once find the causes underlying this type of anemia, I think we would have a very much better understanding of pigment metabolism, in the first place; of marrow reaction in anemia, in the second; and a host of other problems relating to the complicated story of internal metabolism. So the person who solves this anemia will really have done something. The chances of studying this anemia, I am sure, are open to all of you, because there must be cases here in this State, and I imagine many of them already recognized, but there are really chances for very interesting study that bear on the whole question of pigment metabolism, the formation, production and destruction of pigment in the body about which we know so very little.

University of Rochester School of Medicine.

ACUTE DIFFUSE DISORDERS OF THE LIVER*

By Thomas P. Sprunt, M.D.
Baltimore, Maryland

THE largest of the glandular structures of the body, the liver, has a multitude of activities, some of which are known, others suspected, and still others, in all probability, not yet in mind at all. The complexities of its physiology are enhanced by its coöperative relationship with the functions of other organs and tissues, and the manifestations of its pathological physiology may perplex us for the same reason.

By its detoxifying function, by its rôle of a most important excretory organ, and by its position between the gastro-intestinal tract and the rest of the body, the liver constitutes a first line of defense in relation to the citadel of the whole organism. That it serves so well in this capacity must be due to its unusual reserve and to its inherent powers of resistance and of regeneration. These are some of the reasons why we hear and think so much more about diseases of the heart, of the lungs or of the kidneys than we do about diseases of the liver.

The most obvious clinical manifestations of liver disease have to do with the excretion of bile, with its relation to the portal circulation, and with its variability in size. By the contributions of experimental research and especially by a more comprehensive understanding of the pathogenesis of different forms of jaundice we have been greatly aided in the clinical study of hepatic disorders. We are beginning to appreciate the apparent fact that our stalwart first line of defense not infrequently shows signs of the strains to which it is subjected, not bv an actual break but by demonstrable evidence of a diminution in its reserve with the accompanying indication of a more vulnerable condition. According to Rich, an increased formation of bilirubin and the anoxemia associated with the respective diseases results in a positive indirect van den Bergh reaction in the blood of practically all cases of pneumonia and of chronic passive congestion due to heart failure. Further, it has been noted that dogs with biliary fistulae show a marked reduction in the total quantity of bile excreted during intercurrent infections. Urobilinuria is of common occurrence in febrile states and urobilinuria is accepted as an indication of a reduction in the functional capacity of the liver. Such clinical phenomena may be linked with the pathological features of cloudy swelling and perhaps also a mild atrophy of the liver cells, especially near the centers of the lobules. These phenomena are analogous no doubt to the occurrence of albumin and casts in the urine in febrile and other general disturbances.

CLINICAL TYPES

In taking up the more obvious acute disorders of the liver let us consider first several clinical types: (1) simple or catarrhal jaundice, (2) at the other extreme of severity, acute yellow atrophy of the liver, (3) intermediary types between (1) and (2), (4) acute disorders of the liver without jaundice.

Under the term *simple or catarrhal jaundice* we include probably a variety of pathological states not yet readily separable. It is generally agreed now that most of these cases represent a disturbance of the liver cells rather than of the bile ducts. There are many grades of severity, from the mild jaundice of which the patient himself is hardly conscious, to fairly severe illnesses with a duration of weeks, and even perhaps of months. In the average case there is usually a prodromal period of several days with anorexia, gaseous eructations, a sense of fulness and of pressure in the epigastrium, nausea, perhaps vomiting, constipation or diarrhea, and frequently malaise with pains in the head and back. The jaundice is obvious after a few days. The urine contains at first urobilin and urobilinogen, and later bilirubin and bile salts. As a rule the jaundice increases to a maximum and then gradually recedes. The liver is somewhat enlarged and often tender. The spleen is palpable. Fever is usually present, at least in the beginning, and there may be pruritus and bradycardia as a result of the jaundice. The stools may be light in color, or completely acholic.

At its onset, *acute yellow atrophy* may not be distinguishable from simple jaundice. The distinction comes with increasing signs of hepatic insufficiency, marked fatigue, apathy, headache, confusion, psychomotor disturbances, perhaps other nervous features, delirium and unconsciousness. Coincident with the ominous symptoms the liver, that may have been somewhat enlarged, begins to shrink, the jaundice deepens, persistent vomiting may appear, and bleeding into the skin and mucous membranes, melena, hematemesis and epistaxis. There may be high fever in the comatose stage and the patient dies within a few days.

There are *intermediary types* between the simple jaundice with mild symptoms of a few weeks' duration and the acute death from hepatic insufficiency. The patient with a relatively simple jaundice may continue to be jaundiced and quite uncomfortable for two months or more before recovery. A patient may show marked improvement after the appearance of ominous symptoms and perhaps later on may relapse and die of hepatic insufficiency. On the other hand, such a patient may recover completely or he may go over into a subacute or a chronic condition with a somewhat enlarged, firm, nodular liver, spoken of by Marchand as *nodular hyperplasia of the liver* and by Mallory as *toxic cirrhosis*. The spleen is usually enlarged and ascites is frequent. Chronic liver diseases and many infections and intoxications may be complicated by an acute hepatic disturbance as we shall note later.

Serious acute hepatic disturbances may apparently occur without jaundice. Helwig and Schutz report a series of such cases under the title of "A liver-kidney syndrome." In most of the cases there was a history of long standing gall-bladder disease and of operation. The picture was ushered in by abdominal distention, increase in pulse rate and temperature, then progressive oliguria with albuminuria, cylindruria, and hematuria; nausea and vomiting were sometimes present and always a striking increase in the nonprotein nitrogen of the blood. Bleeding from the mucous surfaces was common. A low grade, generalized edema developed and almost total anuria, the patient dying in a state clinically resembling uremia. The livers at autopsy were somewhat enlarged, showed fatty degeneration and profound cloudy swelling, with leukocytic infiltration, focal hemorrhages and parenchymatous cell necrosis.

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* Read before the General Medicine Section of the California Medical Association at the sixty-fourth annual session, Yosemite, May 13-16, 1935.

The foreign literature contains many references to hepatorenal syndromes and the Japanese have done considerable experimental work on the compensatory relationships of hepatic and of renal functions.

ETIOLOGY

The etiological factors in the acute diffuse disorders of the liver may be of the greatest diversity as can be readily appreciated by studying the table from Bockus and Tumen entitled:

HEPATOCELLULAR JAUNDICE

A. Chemical Poisons

1. Arsenobenzol derivatives—Arsphenamin, neoarsphenamin, tryparsamid, etc.
2. Quinolin derivatives—Cinchophen, atophan, quinophen, phenoquin, acophanyl, hydrocin, oxyliodid, arcanol, etc.
3. Halogen group—Chloroform, carbon tetrachlorid, tetrachlorethane, ethyl chlorid, ethyl bromid, trichlorethylene, tribromethyl alcohol (avertin).
4. Aromatic organic compounds—Trinitrotoluene (T. N. T.), dinitrobenzene, dinitrophenol, picric acid, toluylenediamin, and acriflavine.
5. Miscellaneous—Arseniureted hydrogen, phosphorus, alcohol, lead, mercury, synthaline, snake venom.

B. Vegetable Poisons

Mushroom poisoning.

C. Bacterial or Virus Poisons

Epidemic catarrhal jaundice (infectious jaundice), pneumonia, yellow fever, influenza, food poisoning, typhoid, paratyphoid typhus and parenteric fevers, streptococcus septicemia.

D. Protozoal Poisons

Syphilis—Icterus syphiliticus praecox, specific chronic interstitial hepatitis.

Spirochaetosis icterohemorrhagica, amebic dysentery, malaria, kala-azar, relapsing fever.

E. Miscellaneous

Idiopathic nonepidemic catarrhal jaundice (some types), toxemias of pregnancy, uremia, goiter, acidosis of recurrent vomiting in children, portal cirrhosis.

There is included here also a table from Rich of the factors involved in retention jaundice. While the liver disease in most cases of retention jaundice is not a conspicuous part of the clinical picture, nevertheless, the reduction in liver function is responsible in part for the jaundice and perhaps for other symptoms.

PATHOLOGY AND PATHOGENESIS

The pathological changes involve particularly the parenchymatous cells of the liver and the bile canaliculi, and to much less extent the interstitial tissue. The cellular changes include cloudy swelling, atrophy of the liver cells, particularly about the central vein of the lobule, and actual necrosis of the cells, with consequent rupture of the bile canaliculi and the escape of the bile into the tissue spaces and into the blood sinusoids. Although marked diffuse liver changes are often spoken of as acute hepatitis, in reality inflammatory changes are much less usual than those just mentioned. There does sometimes occur, however, actual diffuse acute hepatitis with changes in the parenchymatous cells, with edema, and with cellular exudates.

The pathogenesis of acute diffuse liver disease may best be approached from the standpoint of that of the jaundice. We shall probably agree that bilirubin, derived, of course, from hemoglobin, is not formed in the parenchymatous liver cells but is brought to them by the blood stream and excreted by the liver cells into the bile. Jaundice may arise in two different ways, (1) the bilirubin circulating in the blood stream may not be ex-

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1. RETENTION JAUNDICE
   Laboratory tests:
   Blood: ++ indirect v. d. Bergh
   Stools: ++ urobilin
   Urine: ++ urobilin
   Cause: Overproduction of bilirubin + subnormal liver function caused by
   - *A.* Anoxemia, caused by
     - 1. Anemia
       - Pernicious anemia
       - Hemolytic jaundice
       - Sickle-cell anemia
       - Paroxysmal hemoglobinuria
       - Mismatched transfusion
       - Phenylhydrazin poisoning
     - 2. Chronic passive congestion
       - Cardiac decompensation (especially with pulmonary infarction)
   - *B.* Febrile disease associated with anoxemia resulting from
     - 1. Anemia
       - Hemolytic septicemias
       - Malaria
       - Black-water fever
     - 2. Pulmonary consolidation
       - Lobar pneumonia
   - *C.* Immaturity of liver cells in
     - Newborn
       - Icterus neonatorum
   - *D.* Undetermined ....Hanot's cirrhosis

The Differences Between the Clinical Laboratory Findings in the Two Main Types of Jaundice

	Blood (van den Bergh Reaction)	Urine			Feces (Urobilin)
		Bilirubin	Bile Salts	Urobilin	
Retention jaundice	Indirect	0	0	+	Increased
Regurgitation jaundice	Direct	+	+	+	Decreased

creted by the liver cells and accumulates in the blood, so-called retention jaundice; (2) the bilirubin is excreted by the liver cells and then escapes from the bile canaliculi into the tissue spaces and blood sinusoids of the liver, either by reason of obstruction of the duct or by necrosis of the liver cells. In this case, not only bilirubin but the whole bile gets into the blood stream, the so-called regurgitation jaundice.

Bilirubin after passing down the biliary duct and reaching the intestines is reduced to urobilin, a part of which is absorbed and carried back to the liver and excreted again into the bile. When the excretory function of the liver is depressed, the urobilin may also accumulate to some extent in the blood stream and be excreted by the kidneys into the urine. Urobilinuria is hence regarded as an indication of a depressed activity on the part of the liver.

The study of jaundice has been greatly facilitated by van den Bergh's application of Ehrlich's diazoreaction as a test for bilirubin in albuminous fluids. Quantitatively by this test minute amounts of bilirubin can be measured in the blood plasma, and qualitatively there are differences in the reaction that enable one as a rule to decide whether he is dealing merely with bilirubin which the liver has failed to remove from the blood, or with bilirubin which has passed through the liver cells into the bile canaliculi but which has subsequently found its way back into the blood stream because of obstruction of the duct or because of necrosis of the liver cells. The bilirubin that has not yet passed through the liver cells gives a delayed or so-called indirect reaction. The bilirubin which as a part of the whole bile has been regurgitated back into the blood stream gives an immediate or so-called direct reaction. This qualitative difference in the reaction is thought to be due to physicochemical factors. The bilirubin that has not yet been excreted by the liver cells is perhaps bound in some way to the plasma protein, gives an indirect van den Bergh reaction, and is not readily excreted by the kidneys into the urine. The regurgitated bilirubin, however, probably because of the presence of other biliary constituents, is not thus bound to the plasma protein, gives a direct van den Bergh reaction, and is readily excreted by the kidneys into the urine.

In such a regurgitation type of jaundice the cholesterin content of the blood is increased, bile salts are present in the blood and are excreted into the urine at least in the earlier stages of the jaundice. From the standpoint of the lesion in the liver a regurgitation jaundice is associated with necrosis of the liver cells. A retention jaundice, on the other hand, is not associated with necrosis but with milder forms of injury, cloudy swelling and atrophy of the cells, particularly near the center of the lobule. These milder forms are due, as a rule, to an increased formation of bilirubin together with a depressed excretory function of the liver due to different factors, particularly anoxemia, fever, and in the case of the new-born, to immaturity of the liver cells.

Combination forms may occur and in certain cases a retention jaundice may pass over into a regurgitation jaundice. In a case of lobar pneumonia, for example, the increased bilirubin formation together with the depressed liver function due to fever and anoxemia may result in a retention jaundice with an indirect van den Bergh reaction in the blood. With increasing toxemia there may occur liver necrosis, the van den Bergh becoming at first diphasic and then direct, with regurgitation of bile into the blood stream and the appearance of bile salts and bilirubin in the urine.

The numerous etiological agents of acute liver disease have been mentioned. It is obvious that everyone exposed to epidemic infectious jaundice does not succumb to the disease, that all pneumonia patients do not develop a marked liver injury, and that comparatively few patients show a striking liver lesion after the intravenous injection of arsphenamin. There must, then, be other factors, *predisposing causes,* to be taken into account. Although there are doubtless many factors of which we are completely ignorant and which we may group as individual predispositions or individual idiosyncrasies on the part of the patient, there are other definitely known factors that are of distinctly practical importance.

The first of these factors is the depletion in the glycogen reserve of the liver. The liver is, of course, the great glycogen storehouse of the body and it is from this glycogen store that the blood sugar is maintained at its normal standard level. There are many clinical observations and much experimental work indicating that when this glycogen reserve in the liver is markedly reduced, liver function tests show a depression of function and the liver is found to be definitely more vulnerable to the poisonous agents used in experimental work.

The importance of anoxemia has already been indicated a number of times. Important conditions that may produce anoxemia are congestive heart failure, particularly with the addition of pulmonary infarctions, severe anemia, and pulmonary consolidation as in lobar pneumonia.

The presence of a chronic diffuse disease of the liver, as for example, cirrhosis, distinctly predisposes the organ to acute disease.

The predisposing influence of pregnancy on liver vulnerability is well known. Acute yellow atrophy of the liver is considered one of the major toxemias of pregnancy, and liver hemorrhage and necroses are common in eclampsia and other toxemias of pregnancy. Soffer states that in normal pregnant women the bilirubin excretion test revealed a mildly defective liver function in nine of ten subjects during the last four or five months of pregnancy.

The influence of toxic thyroids upon the liver has been receiving some attention during the past few years. Beaver and Pemberton reported the occurrence of jaundice in 21.7 per cent of 107 cases of exophthalmic goiter. The livers showed acute degenerative lesions of different types. Högler believes that patients with thyroid disease are more prone than others to the development of hepatic lesions after the use of cinchophen. In certain surgical clinics, notably at Leipzig, tests are being developed for the study of the liver in association with exophthalmic goiter and these tests are being used in addition to the basal metabolic rate in determining if and when to operate upon the thyroid gland.

The doctrine of allergy has been extended to cover a multitude of clinical and pathological states. There are those who believe that certain acute hepatic injuries are due to allergic phenomena and particularly those caused by cinchophen poisoning.

DIAGNOSIS

The diagnosis is based chiefly upon a careful history, a review of possible etiological agents, the clinical symptoms and signs, and certain helpful laboratory tests. The differential diagnosis is to be made chiefly from cases of duct obstruction and it may be difficult. Favorable to the diagnosis of hepatic damage is an acute onset of painless jaundice in a relatively youthful person with slight fever, slightly enlarged and slightly tender liver, and a palpable spleen. If the patient is seen quite early in the disease, the behavior of the blood plasma bilirubin may be helpful, changing as it sometimes does from an early indirect reaction to the diphasic and then to the direct reaction with reverse changes during the period of recovery.

Of liver function tests, as a direct van den Bergh reaction is usually present, one does not use other tests of the excretory function of the liver (bromsulphthalein, tetraiodophenolphthalein, rose Bengal) since they are not only unnecessary but may possibly be harmful. It is of value to follow the quantitative van den Bergh reaction in the blood plasma to determine the increase or the decrease in the amount of pigment. The simpler but less accurate icterus index is used for the same purpose. Attention should be paid to the bile pigment in the blood, in the urine, in the stool and perhaps in the duodenal contents. Urobilinuria may be present particularly in the early and in the recovery periods of acute hepatic disease but is often absent at the height of the illness. Even with acholic stools an examination of the duodenal contents by means of a tube may show that bile pigment is constantly present there, indicating at least that there is no complete obstruction. Although bile pigment may be absent from the duodenal contents for short periods in acute liver disease, this obtains usually for a very brief period of time only.

Of other tests, the galactose tolerance test among those used to investigate the carbohydrate function of the liver, is of considerable value in the differentiation between jaundice of hepatic origin and that due to duct obstruction. In fact, here is where this particular test finds its greatest usefulness. The test is usually positive during the first two weeks of an acute hepatic injury and is usually negative in the early stages of duct obstruction. While the galactose tolerance test is of less general usefulness than the levulose test, in this particular instance it is at least of equal value and is performed more readily and without the necessity of venapunctures. After a twelve-hour fast the patient in the morning is given 40 grams of pure galactose in 500 cubic centimeters of fluid. Collections are made of all the urine passed during the following five hours. If more than 3 grams of sugar are passed during this period the test is considered positive.

In cases of very severe liver injury leucin and tyrosin crystals may be found in the urine as indications of a defective protein function on the part of the liver, but when they appear their presence is usually not necessary from the standpoint of diagnostic aids.

CLINICAL COURSE AND PROGNOSIS

Although the clinical course in most cases of diffuse hepatic injury is relatively mild and the prognosis favorable, one must still be careful of the prognosis in any individual case. There are no satisfactory early criteria for the detection of the comparatively unusual case that will go on to marked hepatic insufficiency or that will develop a subacute or chronic liver disease. In favorable cases, after the disappearance of the jaundice the bromsulphthalein or other similar test may be used to determine any residual functional defect. It has usually been believed that in favorable cases the liver is restored completely to normal after recovery from a simple jaundice or other diffuse hepatic lesion. Soffer and Paulsen, however, believe that by using the injected bilirubin excretion test they have shown in a majority of cases a residual defect of liver function months and even years after apparent recovery from such illnesses. If this work is confirmed it may be of some interest in relation to MacNider's belief that in the kidneys and livers of animals recovering from poisoning the regenerated cells are more resistant to that particular poison but show a diminished functional capacity.

PROPHYLAXIS

Perhaps from a study of the acute diffuse hepatic lesions we may find some practical points in the prevention of such disorders. Time is not available for a consideration of all the possible etiological agents, but we may at least note those for which the physician is partly responsible, especially the arsphenamins, the cinchophens, dinitrophenol and the halogen group including certain anesthetics and carbon tetrachlorid. So great is the therapeutic value of arsphenamin that one need not hesitate to continue its use in the face of occasional serious reactions, but the same cannot be said of all the drugs mentioned.

Probably the most interesting of these disturbances is the so-called postarsphenamin jaundice, the pathogenesis of which is at present a matter of considerable uncertainty in view of conflicting evidence both from the clinical and from the experimental aspects. Theoretically the lesion may be due primarily to the syphilis, or solely to the drug, or to an intercurrent infection, or to some combination of these factors. In spite of the epidemiological and other evidence suggesting that it probably represents an acute infection in a patient whose liver function is lowered by the added strains of syphilis and of arsphenamin therapy, it seems to me wise at present to stress the importance of the drug and to govern our care accordingly. It is impracticable to institute frequently repeated liver function tests in all cases receiving arsphenamin therapy but the physician may at least remember that the liver of his patient is already subject to two potentially harmful agencies and consider carefully the other predisposing factors previously mentioned. The custom in some clinics of giving the drug early in the morning to the patient whose stomach is empty after a twelve-hour fast seems unwise in view of what is known of the protective action of glycogen in the liver. Stokes emphasizes the importance of the liver cell in several of the arsphenamin reactions and stresses the importance of careful technique in the injection of the drug. In addition it would certainly seem practicable to have van den Bergh tests on those patients who show marked gastro-intestinal symptoms after the drug and on those who in general are not doing well under treatment.

The fact that many patients after recovery from a postarsphenamin jaundice can take the drug again with impunity to the liver and with general therapeutic benefit is again of possible interest in connection with MacNider's experiments on the regeneration of resistant cells.

TREATMENT

In the treatment of a case of acute diffuse liver disease every effort, of course, should be made to establish the etiological agent and in the case of a drug, for example, to eliminate it promptly.

Complete rest in bed should be enjoined except perhaps in the mildest cases. An abundance of fluid should be administered.

Majority opinion favors a diet low in protein and in fats, and high in carbohydrates, the low protein in order to spare that function of the liver, the low fat in view of the relative or absolute lack of bile in the intestinal tract, and the high carbohydrate in order to insure an adequate reserve of glycogen in the liver cells. Articles of food like the following may be utilized: sweetened fruit juices, dishes prepared from flour, especially soups and purees, macaroni, bread, rice, oatmeal and other cereals, gelatin, vegetables especially in the form of purees, and jams and marmalade provided they are well borne. Experimental work by Craven at the Johns Hopkins Hospital with arsphenamin administration to animals indicated that a high fat diet offered more protection to the liver than a high carbohydrate diet, but this is in opposition to the established thought and practice.

In severe cases or when the patient takes the diet poorly, glucose should be administered intravenously in doses of 100 grams in a 20 or 25 per cent solution, administered quite slowly, and repeated two or three or four times in the twenty-four hours, or the glucose may be administered by the continuous "intravenous drip" method at the rate of 0.8 grams per kilo of body weight per hour. European clinicians have for years advocated the use of insulin in conjunction with the glucose therapy but the experiments of Althausen prove conclusively that insulin is a hindrance and not a help in enabling either the normal or the injured liver to store glycogen.

Satisfactory bowel function should be insured by the use of mild laxatives.

There may be some virtue in the intravenous administration of calcium in the form of 10 cubic centimeters of a 10 per cent solution of calcium gluconate daily. The use of sodium thiosulphate in the treatment of arsenical and heavy metal poisoning of the liver has been abandoned both by Stokes and by Moore.

The intramuscular administration of liver extract has been recommended and deserves a trial.

The use of duodenal drainage by means of the duodenal tube and magnesium sulphate has been widely advocated and is recommended by both Stokes and Moore among the syphilographers. It is difficult for me to appreciate the rationale of such a method of treatment in acute liver disorders other than the laxative value of the magnesium sulphate.

Cholagogues and choleretics also have had advocates but the use of such stimulation to damaged liver cells is usually decried for fear of a definite exacerbation of the disease. Certain cases, however, have seemed to be definitely benefited by a few injections of decholin. This has occurred usually in persistent cases of hepatic jaundice that seemed to have reached a standstill and the injections have been followed by a flow of bile into the duodenum and a prompt amelioration of symptoms. One may imagine that in such cases a partial blocking effect may have been produced by inspissated bile in the finer bile channels and that this block was relieved by an increased flow of more dilute bile.

The question of surgical interference not infrequently arises when there is difficulty in deciding between an hepatic jaundice and a duct obstruction. The evidence regarding the effect of surgical operation upon a patient with acute hepatic disease is conflicting. From some clinics there are warnings that the operative procedure may precipitate a more severe hepatic insufficiency. Other writers describe apparent benefit from an operation with drainage of the gall-bladder.

Symptomatic therapy is indicated for the various pains and aches, the pruritus, the nervous manifestations of increasing hepatic insufficiency and for other symptoms.

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THE TREATMENT OF ASTHMA*

WITH SPECIAL REFERENCE TO THE ORAL USE OF THE ADRENAL HORMONES AND SODIUM CHLORID

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STUDIES in protein sensitization in allergy have been of great value in identifying that group of individuals who suffer from allergic manifestations, but they have contributed little to our knowledge of the underlying pathologic physiology of the condition. It would seem more reasonable to pursue the study of the state of hypersensitivity rather than that which plays upon this hypersensitivity.

ASTHMA A VEGETATIVE IMBALANCE

It is necessary to consider the cells of the tissues which manifest the allergic paroxysm, the nature of their response and the physiologic state responsible for it, and also the individual and his constitutional physiologic imbalances which predispose to sensitization. The discovery of how the various precipitating factors—physical, chemical, and biological—act upon the physiologic imbalance of the individual and precipitate the allergic reaction in the cell should lead to effective preventive and therapeutic measures.

We must broaden our conception and get away from the idea that precipitating factors are always chemical substances, usually protein, brought in contact with the cells, directly, or through the body fluids. It has been the experience of all that meteorologic conditions influence the occurrence and severity of asthmatic paroxysms. In other than pollen types, asthma is generally more severe in winter and spring than in the summer. Approaching cyclonic disturbances have a definite aggravating effect. Asthmatic paroxysms are usually more common at night than during the day. W. F. Petersen shows these phenomena are accompanied by a relative tissue alkalosis. Severe nervous strain and infections with the accompanying exhaustion of the sympathetico-adrenal system frequently initiate allergic phenomena.

The allergic constitution is characterized on the part of the nervous system by an excess of parasympathetic nerve action; and on the part of the electrolytic system as a low calcium-potassium balance (Pottenger); on the part of the endocrine system by a hypofunction of the sympathetico-tropic hormones; on the part of the body fluids by an increase in potassium and an instability of the water balance (Peyton); and on the part of the tissues by a tendency to alkalosis. The sensitized cells show increased permeability and hyperactivity.

When we consider the numerous and diverse factors which may apparently produce the same type of response in the cells, and that allergy is localized as to tissues and not general (although it may be multiple), we can hardly expect that a single mechanism could be involved in its production; nor is it likely that a single therapeutic measure would be the most effective in all instances. However, in a physiologic balance, a deficiency in one factor, if not too great, may be adequately compensated by an overabundance of a similarly acting different factor. Hence in therapeutics a certain measure may be of value, even though the condition which it attempts to correct may not be primarily at fault. Measures of this type are those which attempt to increase the acidity of the tissues, to change the concentration of the mineral elements of the body fluids, to change the activity of the autonomic nervous system and to change the endocrine balance.

PHYSIOLOGIC BASIS FOR TREATMENT OF ASTHMA WITH ADRENAL HORMONES

In this paper we are reporting the initial clinical effects of the use, by mouth, of the hormones of both the medulla and cortex of the adrenal gland and sodium chlorid.

Adrenal extracts have long been used in the treatment of allergic manifestations. Crude fresh extracts were employed in the treatment of hay fever before Takamine published his work on adrenalin in November, 1901. Since that time epinephrin has been one of the most widely used of all drugs in the treatment of asthma. The work of Hartman, Swingle and Pfiffner, and Kendall on the active principle of the cortical portion of the adrenal has made further inquiry into the relation of the adrenal gland to allergy advisable. Chance observation led us to pursue this subject, and our investigation has yielded encouraging results.

Inasmuch as we started this work as a clinical study, a short review of the first stages would be instructive. In August, 1932, we began feeding whole beef adrenal glands to a group of patients suffering from asthenia. These were administered within a few hours from the time they were removed from the animals. Our reason for this was because of the various reports connecting this condition with adrenal deficiency. The improvement in their energy and sense of well-being was very definite. In September, 1932, a child whom we were treating had been suffering from continuous asthma for several months and was completely exhausted. With the idea that we might at least

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relieve his exhaustion we gave him seven grams of whole raw beef adrenal gland, which was first ground and then mixed with peanut butter. That night the child became free from asthma and remained so for three days.

This gave the impetus to the studies leading up to the present report. Later, one of us (F. M. Pottenger, Jr.) began extracting the cortical hormone, as described below. A large amount of crystalline epinephrin was obtained as a byproduct, the cortical extract being practically free. Therapeutic tests were made with both by mouth, because the whole gland was effective by mouth. We found both fractions to be effective, and when given together they were more efficacious than when given alone.

The full physiologic action of the adrenal gland is not yet understood. The question arises whether or not there is more than one hormone in the cortex. In the raw gland-feeding experiments, adult patients rather generally noticed an increased libido, which effect is not produced by the extract. Further, one gram of raw gland is therapeutically equivalent to about 100 gram equivalent of extract. The extract contains the active principle isolated by Swingle and Pfiffner, since the first three steps of their original technique is followed in making our product; and it has been shown to be active by prolonging the life of completely adrenalectomized cats.

Our knowledge of the physiology of the active principle of the cortex is based on studies of adrenalectomized animals and their response to the hormone. The most striking feature is the rapid loss of weight of the animals after removal of the adrenals. This has been shown to be due to loss of sodium (Rubin and Kirck), with corresponding loss of its chlorid salt. Accompanying the loss of body fluid and base is an increasing acidosis and rise in the nonprotein nitrogen of the blood (Harrop). At the same time, fluid is drawn out of the tissue cells to replace the ebbing body fluids. As the cells contain a high concentration of potassium, the blood potassium rises and at death reaches a height found in acute potassium poisoning. There is no change in the blood calcium. All these changes could be largely, if not entirely, explained on the basis of loss of sodium. Thus, as the thyroid regulates iodin metabolism, the parathyroid calcium metabolism, it seems that the adrenal cortex regulates sodium metabolism. Accordingly it was proposed by Loeb to use sodium chlorid in Addison's disease. By giving a sufficient amount of salt without the cortical hormone the symptoms of Addison's disease can be alleviated in all but extreme cases.

The anaphylactic action of the adrenal hormones has been studied by Wolfram and Zwemer. They found that either epinephrin or the cortical hormone would protect against anaphylactic shock. The action of epinephrin was more prompt; that of the cortical extract more prolonged. If the epinephrin was given after the cortical hormone, its effect was enhanced.

We have had one patient on extract for two years, but have noticed none of the antihormonal effects which Collip has observed in case of the thyrotropic hormone of the pituitary.

COMMENTS ON THE CLINICAL EFFECTS

It is proper at this point to attempt to explain the observed clinical effects which we are reporting on a physiologic basis. All physiologic balances or imbalances—nervous, endocrine or humoral—manifest themselves primarily through their action on the tissue cells. The type of activity of the various body cells is more or less specialized, depending on the function of the organ to which they belong; but the cells can only respond by a change in their state of activity, which in turn is dependent on their permeability. There is considerable evidence to indicate that the cellular membrane is composed chiefly of phospholipins and cholesterol in definite proportions, the former favoring permeability and the latter inhibiting it. The permeability of the whole membrane is again influenced by the electrolytes in the surrounding fluid. The most important of these electrolytes are potassium and calcium. Changes in the ratio of potassium to calcium ions changes the permeability and activity of the cell. A relative increase in potassium ions increases permeability, a relative decrease decreases the permeability. Stimulation of the parasympathetic nerves and an alkalosis increases the potassium/calcium ratio. Stimulation of the sympathetics, epinephrin and an acidosis decrease the potassium/calcium ratio. In the experiments quoted above, it was shown that the deficiency of sodium developing in adrenal insufficiency was partially compensated by replacement from the base of the cells, largely by potassium. This suggests that there is a balance between the potassium of the cells and the sodium of the body fluids.

There is an increase in the blood potassium (Kylin) in asthmatics. The action of the cortical hormone may be to decrease the potassium by raising the blood sodium. This is also the theoretical basis for giving salt by mouth. (The action of adrenalin has long been shown to be through increasing the effect of calcium on the cell membrane.) We attempted to get indirect evidence of this action of sodium through study of the blood chlorids. We found in a group of asthmatics that all the blood chlorids were within the lower half of the accepted normal limit, or subnormal. The chlorids of thirty-three of the fifty patients reported on at this time averaged 454 milligrams per 100 cubic centimeters of whole blood, the lowest being 357; the highest, 496. In spite of the low balance, heavy salt intake, together with cortical hormone, failed to give a significant rise such as is seen in Addison's disease.

Disturbance in the water balance of the body has been observed to accompany allergic manifestations. We have noted a regular loss of weight in patients on elimination diets when a food to which the patient is sensitive is added. This may amount to from three to four pounds. Foldes describes a water retention in migraine, the attacks sometimes occurring while the retention is developing; at other times, during its excretion.

Table 1.—*Results of Treatment by the Use of Adrenal Hormones Administered Orally*

Type of Patient	Type of Therapy	Improvement: Slight	Improvement: Moderate	Improvement: Marked	Total Number Patients
In-patients	Epinephrin only	0	1	1	2
Out-patients	Epinephrin only	0	2	3	5
In-patients	Cortical extract only	0	0	1	1
Out-patients	Cortical extract only	0	0	2	2
Out-patients (children)	Epinephrin and cortical extract	0	7	12	19
Out-patients (adults)	Epinephrin and cortical extract	2	2	5	9
In-patients	Epinephrin and cortical extract	0	6[1]	4	10
	Miscellaneous therapy[2]	0	0	2	2
		2	18	30	50

[1] Three of adult in-patients treated less than two weeks. In each instance, relief of symptoms was obtained.
[2] Use of epinephrin ointment and eschatin in conjunction with oral epinephrin.

We do not know just what is taking place in the sensitized tissues during these changes in the water balance of the body. The disturbance in the water balance may be a link in the chain of physiologic reactions precipitating the allergic paroxysm or it may be a side effect. In any event the hormone of the adrenal cortex has been shown to play a vital rôle in the maintenance of the water balance of the body; and in allergy its administration, either in supplementing a deficient supply from the patient's own adrenals, or by compensating for a deficiency in some other gland may serve to stabilize the water balance.

We have mentioned the rôle played by the nervous system and endocrine systems in regulating physiologic balances, and also that meteorologic conditions have profound effects. However, we must not forget the great but as yet poorly understood potentialities of diet, or rather nutrition. Few physicians have the courage, and fewer the knowledge, to improve on the definition that a normal diet for a normal person is the food he likes cooked the way he likes it, and we can rest in comfort with the knowledge that nature provides an overabundance of the necessary factors and the normal body has a tremendous power of selection and economy of consumption. However, in patients where a physiologic imbalance exists we must include diet in our study of cause and effect. This study should not only include calories, fats, carbohydrates and proteins, but also mineral content, vitamin content and the reaction of the ash of the diet and the physicochemical state of the food; and not so much the oral intake of these substances as their absorption and utilization in the body. We hope to report certain dietetic studies at a future date. However, in this connection it is interesting that a careful dietetic study of a group of our asthmatics showed a very low sodium chlorid intake in all cases.

Another observation for which we have no explanation but which we feel supports our hypothesis that there are numerous and diverse factors, various combinations of which may allow the development of sensitization and may determine the tissue in which sensitization develops is that, in our experience, hydrochloric acid in large doses very often effectively controls pollen hay fever, while our results with the adrenal hormones and salt have been much less satisfactory. On the other hand, we have seen less benefit, as a rule, to asthmatics from hydrochloric acid, while the adrenal hormones and salt have given gratifying results.

We have employed epinephrin in doses of one-sixteenth grain three times a day. The cortical hormone is prepared as follows: The fat is removed and the glands are subjected to the first three steps of the Swingle and Pfiffner technique. Then residue is dissolved in alcohol, the alcohol is removed under vacuum, and the residue is redissolved in alcohol, after which the less soluble fractions are precipitated by chilling. The extract is then standardized, so that one cubic centimeter equals ten grams of whole raw gland. One-half to one cubic centimeter is given in orange juice two or three times a day after meals. The sodium chlorid is given as table salt in doses of from three to six grams in eight ounces of water one-half hour before meals. If the morning dose causes loose stools, the salt should be given after breakfast. Our patients are given as much rest as possible. Those institutionalized are put to bed until the asthma is controlled. Sedatives and hypnotics are given when indicated. Although these patients were on a special diet it is in no sense an elimination diet.

BOTH EPINEPHRIN AND THE CORTICAL HORMONES ARE PROVED TO BE ACTIVE WHEN GIVEN ORALLY

We are limiting this report to the results observed in the first few weeks of treatment. Clinical experience has shown that the other factors in the regimen do not produce the results described. We do not know how long the adrenal hormones must be kept up. We have evidence that desensitization has been accomplished by long-continued use of the extract, but our cases are too few to permit us to make a definite statement on this particular point at this time. How big a factor the nutritional measures which we use in these cases is has not yet been worked out.

The sodium chlorid by mouth produces the following effects: (1) Improvement in the feeling of well-being; (2) improved bowel function, the stools containing a larger amount of moisture though formed; (3) some lessening of the frequency of asthmatic attacks, and (4) fortification of the effect of the cortical extract. In no case has salt alone, in our experience, controlled asthma, but the combined use of salt and hormones has lessened the amount of hormones necessary to relieve the patient.

In nineteen children treated in the clinic, and in nine adults institutionalized, we have not failed in a single instance to relieve the asthma. The children have almost universally been the type who have considerable bronchitis with bronchiectatic change. However, the asthma has been precipitated again in many cases by colds or other acute infections or overexertion. In no case has the recurrence proved refractory to subsequent treatment. However, the discussion of the prolonged treatment of asthma is outside the scope of this paper, as we are limiting ourselves to the value of these measures in freeing the asthmatic patient from his attacks.

Our experience with the adrenal hormones and salt has been much more limited in other allergic conditions. It seems to be of value in migraine. The cortical hormone combined with epinephrin ointment has been quite effective in controlling eczema. As we mentioned above, it has not been as satisfactory in hay fever as in asthma.

THE EFFECTS OF EPINEPHRIN AND THE CORTICAL HORMONE SHOWN IN FIFTY CASES

The accompanying chart* (Table 1) summarizes the results of our therapy. The patients are segregated as to the type of therapy used, and whether or not the patient was treated institutionally or in the out-patient clinic. In all cases the daily consumption of a large quantity of sodium chlorid was insisted upon.

Of the fifty cases reported,* the results of all but two have been satisfactory. Neither of these patients was able to submit to a program of rest, which is so essential to the relief of their condition, but both patients experienced considerable increase in energy and a feeling of increased well-being, although neither was completely freed of the attacks.

Although we have discussed the result of treatment only from the standpoint of relief from the paroxysm, in summarizing our results we have divided the relief obtained into "moderate improvement" and "marked improvement." Both groups obtained satisfactory relief from the immediate attack, but this classification is determined by our knowledge of their subsequent course. Relief in these instances was obtained in from a few minutes to five days. In speaking of relief we do not mean temporary relief, such as is obtained from a single injection of epinephrin, but a more permanent relief which leaves the patient free from symptoms. In those patients classified under "moderate improvement," recurrence of symptoms has been noted, with colds and exhaustion states, while those showing "marked improvement" have been free for from three months to two years.

SUMMARY

1. Asthma (allergy) is a condition in which all systems of vegetative control of cellular activity—nervous, endocrine, and electrolytic—may be in imbalance.

2. The accidental discovery of the usefulness of cortical extract in the treatment of asthma.

3. Both epinephrin and the cortical hormone are proved to be active when given orally.

4. The effects of epinephrin and cortical hormone in the control of the asthmatic state is illustrated in the treatment of fifty patients.

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PUBLIC HEALTH AND MEDICAL COÖRDINATION IN POLIOMYELITIS CONTROL*

WITH REFERENCE TO THE 1934 EPIDEMIC IN LOS ANGELES COUNTY

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Discussion *by Alfred James Scott, M.D., Los Angeles; Charles Leroy Lowman, M.D., Los Angeles; R. W. Meals, M.D., Hollywood; John C. Ruddock, M.D., Los Angeles.*

In reviewing the present situation in regard to poliomyelitis, a word or two concerning past history in this county is necessary. This disease has been recurring at intervals of from three to four years in this area for a considerable period of time. In 1912, in Los Angeles City alone there were 265 paralytic cases, with fifty-three deaths, practically no abortive cases being recognized and reported at that time. A mild outbreak occurred in 1916, which, however, did not assume epidemic proportions. An outbreak of similar proportions occurred again in 1920, with finally a more severe one in 1925.

THE OUTBREAK IN 1930

The most serious outbreak occurred in 1930, with the greatest concentration of cases in the Glendale and Alhambra districts, although the epidemic was widespread. In the outbreak of 1930 there were 342 cases and twenty-four deaths in the county health department territory. This was the first instance where a considerable number of preparalytic cases were reported, and the department furnished convalescent serum. The disease reached its peak during the latter part of July, and tapered off until the cold weather began in November. Some 132 patients were sent to the Los Angeles County General Hospital, and 183 cases were treated in their homes. Cases occurred almost equally in rural districts and in cities. In this outbreak there were eleven families in which there were two cases each, one family in which there were three cases, and in one family, which I particularly wish to mention, there were seven cases and three deaths. There were two cases which suffered a second attack: one had two attacks during the epidemic about three months apart, the other having been definitely stricken in 1927, and having a very definite repetition of the disease in 1930. In all there were twenty-four deaths, twelve of which were of children ranging from one to twelve years of age. Of this group,

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* The charts and reports of cases submitted in the manuscript will appear in the reprints.

* From the Department of Health of the County of Los Angeles.

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fourteen were the purely bulbar type, while ten were of the ascending paralysis form with death resulting mainly from paralysis of the muscles of respiration.

GROUPING OF THREE HUNDRED CASES

An interesting tabulation of this outbreak in reference to the use of serum in three hundred cases, which may be divided into three groups of one hundred each, follows:

Group 1. The first group consisted of one hundred preparalytic cases, who received serum; all made complete recovery without paralysis. I must say we had no controls, so you may take this for what it is worth. The fact remains, nevertheless, that one hundred carefully diagnosed cases made 100 per cent recovery, a fact which cannot escape careful consideration. (Sixty per cent of these cases had spinal fluid cell counts, which supported the diagnosis, and all cases received consultation of trained diagnosticians.) Serum averaging 50 cubic centimeters per dose was generally administered intramuscularly, excepting to the extremely toxic, who received it intravenously.

Group 2. The second group of one hundred paralytic cases received serum with the following results: Serum on the first day of paralysis—50 per cent recovery without residual paralysis. Serum on the second day of paralysis—41 per cent recovery without residual paralysis. Serum on the third day of paralysis—22 per cent recovery without residual paralysis. Serum on the fourth and fifth days of paralysis—1 per cent recovery without residual paralysis. Serum was administered in not less than 50 cubic centimeters doses by the intramuscular and intravenous routes, and usually in smaller doses when given intraspinally or intracisternally.

Group 3. The third group of one hundred paralytic cases which received *no* serum resulted in 27 per cent making recovery without paralysis.

Therefore, if 50 per cent of the paralytic group receiving serum on the first day of paralysis made recovery without any residual paralysis, it is reasonable to presume that had the third group of one hundred paralytic cases received the same treatment, there would have been 50 per cent complete recovery instead of 27 per cent, as was the case, thus effecting a saving of 23 per cent.

So we may thus conclude that these data point strongly to the therapeutic value of human convalescent serum in the treatment of poliomyelitis, and certainly that the earlier the serum is administered by the proper method or route, and in unstinted dosage, the greater its therapeutic value.

ORGANIZATION PROBLEMS IN THE 1934 EPIDEMIC

Beginning in the early spring of 1934, our records began to show a slight increase in poliomyelitis. The department repeatedly called attention to this in our weekly bulletin. Early in May a conference was called with all local health officials, and means and measures for combating the outbreak were discussed. Heretofore there have been several obstacles in Los Angeles County to the successful handling of a disease like poliomyelitis. First, in the absence of more definite methods of control measures than at present are at hand, there has been considerable confusion in the public mind because of conflicting programs adopted by the different local health departments. Second, the difficulty of early diagnosis has made reporting by physicians subject to considerable error. Third, in the past rarely over 50 per cent of the cases have been hospitalized, although most authorities agree that the majority of the cases should be thus cared for. Fourth, an adequate follow-up from the standpoint of physiotherapy and orthopedic care is considered a very necessary part of a poliomyelitis control program. Fifth, a thoroughly educated and enlightened public is essential to the success of any poliomyelitis program.

LOS ANGELES COUNTY POLIOMYELITIS BOARD

With these basic fundamentals in mind the county health officer consulted members of the medical profession * and a plan was developed calling for the creation of a group to be known as the Los Angeles County Poliomyelitis Board, which group would bring about correlation and coördination of all local efforts to control poliomyelitis, and to further the coöperation particularly of the general public and the medical profession. It is noteworthy that a similar group had been formed at St. Louis during the outbreak of encephalitis in that section over a year ago. Heretofore, attempts have been made by various agencies to suppress all knowledge concerning the presence of epidemics in this section; various conflicting regulations have been adopted by local health agencies, and there was no one group in existence where joint programs could be worked out and uniformly adopted. During the course of the epidemic the Los Angeles County Poliomyelitis Board met weekly until the second week in August, when it appeared that the outbreak was rapidly waning. Although no special funds of any kind were at the disposal of the Los Angeles County Poliomyelitis Board, and the work of the Board was largely coördination and planning, nevertheless I believe that the results of this effort make the continuation of such an organization a necessity. At the recommendation of the Board, and with the approval of the Los Angeles County Medical Association, I have officially requested the Los Angeles County Board of Supervisors to bring into being a permanent organization with the suggested title of "The Los Angeles County Metropolitan Health Committee"; such committee to function only in times of epidemics or disaster, and to bring into being, as nearly as is possible, complete coördination between the health officials, the medical profession, hospitals, the general public and other agencies.

Just a few words on the work of the Los Angeles County Poliomyelitis Board and the situation in regard to the poliomyelitis epidemic itself. It was decided that the general public would be taken into our confidence and the situation fully explained, especially in regard to precautionary measures and the stressing of prompt and adequate medical care. One hundred thousand copies of a pamphlet approved by the entire board were printed and distributed through various agencies to the general public. Through the courtesy of members of the medical profession, a series of radio talks was prepared and given over KMTR, KFAC, and other stations. Other avenues of publicity, such as newspapers, circulars, and talks to various clubs, were used. A series of letters was sent out to every practicing physician in the county at the expense of the county health department. Members of the board, as well as representatives from the State Department of Public Health, gave instructions to medical groups, so that the profession was thoroughly aroused to the situation. Copies of a special bulletin provided by the State Department of Public Health were distributed to physicians. A special diagnostic group was organized and free consultation offered throughout the county.

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* Among those who gave special coöperation were: Dr. John C. Ruddock, chairman of the Public Relations Committee of the County Medical Association; Dr. C. L. Lowman of the Orthopedic Hospital group, Dr. H. D. Eaton, Dr. A. J. Scott, and Dr. R. W. Meals.

THE SCHOOL PROBLEM

It is notable that, in spite of considerable opposition, it was decided to continue schools with precautionary measures of careful daily inspection of all pupils showing abnormal symptoms of any kind. No theaters or other public places were closed, contrary to previous practice in this regard. Swimming pools were specially regulated and instructions given in regard to the danger of diving or otherwise irritating the nasal mucosa. A special camp ordinance was passed by the Board of Supervisors, which provided for medical inspection of every child before entrance, and for a medical officer to be domiciled at each camp. All camps were placed under a license system and under careful sanitary regulations. It is noteworthy that not a single case of poliomyelitis developed in a summer camp throughout Los Angeles County. It must be recalled that this is the first time in the United States that an epidemic of poliomyelitis has been handled in this manner.

CONVALESCENT SERUM

Through coöperation with the medical staff of the Orthopedic Hospital, arrangements were perfected to supply the medical profession and hospitals with an adequate amount of convalescent serum produced under the most careful laboratory control methods. A total of fifteen gallons of serum was produced by the county health department and the staff of the Orthopedic Hospital, with a saving to the public of nearly $33,000 over prior methods of producing serum. Free serum was made possible to all persons in our territory who required it, including the service at the General Hospital. The necessity for early diagnosis and prompt hospitalization was stressed, with the result that over 90 per cent of the patients were taken care of at the General Hospital. When cases, or suspected cases, were reported to our health centers, a trained diagnostician responded to the call, often accompanied by a physiotherapist, and the patient was promptly diagnosed and either isolated at home or sent to the hospital. Through the aid of members of the medical profession, a special appropriation was obtained from the County Board of Supervisors for a full-time orthopedist, physiotherapists, and many additional diagnostic assistants to the department. A complete follow-up was established in each home in which a case of poliomyelitis had occurred, including careful muscle testing over a period of time of all remaining persons in the family. When cases were discharged from the General Hospital, the health department immediately placed all patients under careful orthopedic and physiotherapeutic régime. It is scarcely necessary with this audience to stress the need of continued follow-up of this type of cases of poliomyelitis, or those suspected of poliomyelitis. Many instances were revealed through this system of slight paralysis following minor illness, often involving a single muscle group. The presence in this district of many types of practitioners, chiropractors, and others, who specially seek to get control of cases of a chronic nature such as poliomyelitis, also makes necessary a most careful follow-up system with this disease. The response from the medical profession was especially gratifying and noteworthy. It is believed that never before has there been such splendid coöperation in regard to reporting of cases, such prompt recognition of preparalytic cases, and such a low mortality rate. Of the total of 732 cases observed during the major course of the epidemic, the death rate was only 1½ per cent, whereas heretofore it has averaged around 20 per cent.

ANALYSIS OF RESULTS

In a careful history check of 370 cases we find the following:

1. Of 235 patients who received serum in the preparalytic state in dosage from 50 to 100 cubic centimeters on the first to the third day from onset, 213, or 90 per cent, proved, on muscle check after release from the hospital, to be normal, while twenty-two, or 10 per cent, showed weakness of certain muscle groups.

2. Of one hundred paretic cases muscle-checked after release from the hospital, 53 per cent showed no extension, 35 per cent showed complete recovery, and 12 per cent showed extension to other muscle groups, but not to the extent of causing physical disability. Under the present orthopedic treatment the prognosis is regarded as favorable for complete recovery.

3. Thirty-five were found in the muscle check to come in the paralytic class. Twenty-five of these had received serum very late, that is, from the fifth to the twelfth day from appearance of paresis. Ten were either missed or refused serum. Our worst cases and the only ones in which we found "Trace or Gone" muscles were in this last group.

LOW MORTALITY RATE

We feel that the extremely low case fatality rate and the small percentage of residual paralysis may to a certain extent be credited to three factors:

1. Early diagnosis;

2. Early hospitalization and administration of pooled convalescent serum in full dosage; and

3. Proper orthopedic care while in the hospital and adequate provision for treatment after release.

INCIDENCE BY AGE

An analysis of the distribution of the cases by age groups shows that 69 per cent of the cases occurred under age nine, and 31 per cent from ten years up. The largest individual group was from five to nine years, in which period 29 per cent occurred. The second largest group shows from nine to fourteen years with 22 per cent. The third largest group is from nineteen to twenty-nine years, in which slightly over 12 per cent of the cases occurred. As in other epidemics, the disease affected the older age group (mostly females) in the latter part of the epidemic, and multiple cases were slightly more frequent. Of the 746 cases recorded up to and including October 27, 1934, there were 128 multiple cases, or a percentage of 17.15 of the total cases.

GEOGRAPHICAL INCIDENCE

In the county area the district immediately adjacent to Los Angeles City, namely, Belvedere, was the most heavily infected, with 240 cases or a proportion of nearly 1 to 300 per population. Alhambra, Redondo, Huntington Park, Glendale, and Santa Monica also showed a fairly high incidence. The far eastern portion of the county, as well as the southeastern portion, remained fairly free.

INCIDENCE AMONG NURSES

The incidence among nurses and doctors was most unusual. Over one hundred cases occurred at the General Hospital, which, so far as I know, is the first instance of such an outbreak yet recorded. A recent outbreak occurred at the Orange County Hospital where, after a poliomyelitis-free period in that county of several weeks, a nurse was stricken a few weeks ago. Thirteen more cases developed among the nursing staff within a short time. One case was extremely severe and had respiratory symptoms. No case occurred among the patients whatever. All of the nurses, with one exception, were living in the dormitory, were working very hard and thus subject to extreme fatigue. It is generally believed that the factor of severe fatigue may have a considerable influence in outbreaks among nursing assistants. No cases occurred among the regular staff of the county health department, but one case did develop in a student nurse.

IN CONCLUSION

In submitting this brief statement concerning poliomyelitis, our purpose is merely to emphasize the serious necessity for complete coördination of all control measures, and to stress the necessity of very close teamwork between health officials, social workers, school authorities, hospitals, and others in handling this disease. We believe that the formation of a coördinating body, such as was formed here and known as the Los Angeles County Poliomyelitis Board, played a very large part in contributing to the successful handling of both general control measures and making possible better care to the individual patient.

In closing, I desire to express my thanks to the members of the medical profession and to my fellow health officers who made this project a success. We submit the plan for the consideration of other counties in the State.

County Health Department, Hall of Justice.

DISCUSSION

Alfred James Scott, M. D. (906 California Medical Building, Los Angeles). — Doctor Pomeroy has presented very clearly and fairly the poliomyelitis situation in Los Angeles County this past summer. The credit for organization of the committee is due to Doctor Pomeroy. The work of the committee resulted in lessening the hysteria among the people by the presentation of cold facts to the newspapers, and the publication of the same, in an honest attempt to keep the public informed of the exact situation. A definite stand was taken by the committee toward the injection of serum for prophylactic purposes, whether wrongly or rightly.

From the standpoint of the diagnostician, who saw all of the early cases on the first call for help from parents or the school nurse, the diagnosis was not always clear-cut. Many mild cases undoubtedly were passed by in the first few days or weeks of the epidemic as attacks of upper respiratory tract infections or mild gastro-intestinal upset. Possibly these same types of cases were later called "abortive poliomyelitis," when they may have been infectious due to a different type of organism. It was these early cases of the abortive type that presented the greatest difficulty in diagnosis, and the diagnostician made it a rule in such cases to watch, for twenty-four or forty-eight hours, before making a positive diagnosis. Many atypical conditions were seen, and a number, when they were not poliomyelitis, may have been quarantined unnecessarily, and possibly many were diagnosed as other conditions that were "abortive poliomyelitis."

The classical case of poliomyelitis did not require much study to make a positive diagnosis, because it was so clear-cut.

Serum may have been given unnecessarily to many patients, but at least very little, if any, damage was done from the use of the human serum.

The follow-up work by the physiotherapist was very instructive. Some of the cases that were thought not poliomyelitis, but that were watched carefully, did develop some muscle weakness, and some cases that were thought definitely poliomyelitis, on the careful check-up showed no muscle weakness.

On the whole, the general poliomyelitis situation was atypical and very interesting, and such was the value of this Poliomyelitis Board, or a similar group, that it should be perpetuated by the County Supervisors, as Doctor Pomeroy has suggested, for some similar condition in the future.

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Charles Leroy Lowman, M. D. (2400 South Flower Street, Los Angeles).—I am especially appreciative of Doctor Pomeroy's comment on the value of convalescent serum, and wish to acknowledge the very fine piece of work done by Doctor Stone in the Los Angeles County Laboratory. He ran seven-day sterility tests on 162,000 cubic centimeters of blood supplied by the Orthopedic Hospital, making 62,000 cubic centimeters of serum, with 100 per cent sterile results.

I am glad also that Doctor Pomeroy has emphasized the importance of beginning orthopedic attention in the hospital during the acute stage, and continuing it without interruption afterward.

The fact that this is the first epidemic of poliomyelitis in which trained physiotherapists were assigned to making muscle checks, is a source of satisfaction to those of us on the Poliomyelitis Advisory Board, and is, I think, a marked step in advance. Medical attendants who are not accustomed to this work will usually overlook deep-seated but very important muscles; or because extremity muscles may seem fairly active they cannot estimate minor degrees of imbalance. It is just these slight degrees of difference that may allow later development of severe deformity, especially in the spine. As 70 per cent of children have some postural fault anyway, the added strain of a serious infectious attack which involves the motor system, even in mild cases, may be the last straw which upsets compensation and starts the insidious course leading, in a few years, to deformation.

I am glad that rest, and more rest has been emphasized in order to offset the vicious teaching of some cultists, who openly recommend getting these patients up early, and starting activity and weight-bearing before the neuromuscular mechanism is ready for it.

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R. W. Meals, M. D. (6777 Hollywood Boulevard, Hollywood).—This community, and others, can avoid costly and embarrassing situations by organizing permanent boards to meet epidemic emergencies. In this same connection it is hoped that ultimately each large population center will establish serum depots, where all antisera may be had for emergency use by every reputable agency or individual.

Concerning the question of closing the schools during an epidemic of poliomyelitis, it might be well to elucidate that the board regarded the unknown, adult, "healthy carrier" as the greatest factor in the spread of the disease, and that the children were safer under observation among their habitual associates than they would have been out of school, in many instances without restraint and increasing their contacts. Parents were advised, however, to keep children out of theaters and crowds in order to avoid possible and unnecessary exposure.

The statistical detail of Doctor Pomeroy's paper brings up points that will bear emphasis. The number of cases in rural districts having equaled those in urban communities shows a relatively higher incidence among the former, at least more infections from fewer contacts in the sparsely populated areas. This confirms the hypothesis that residents of cities enjoy a higher immunity than their rural neighbors, due to more intimate contact and previous unrecognized, or subclinical, infection.

The old theory of single infections in a family was conclusively exploded, and when data are available on the recent epidemic there will be a still greater number of instances of multiple infection in the home. Recognition of the abortive and mildly paretic cases is the answer.

The increased number of preparalytic cases reported is evidence of an alert and coöperative profession, and more accurate diagnoses. Muscle checks following these infections have shown a very high percentage of very minute pareses, thus establishing the diagnoses. Similar tests following minor illnesses have shown comparable findings, thus confirming the belief that many mild respiratory or gastro-intestinal infections are unrecognized poliomyelitis, or infections that at least exhibit neurotrophic toxins.

Instances of second attacks are rare, but do exist. This is evidence of an inadequate initial immunologic response, and neutralization tests done by Howitt * show a higher anti-viral titer of the serum, of the spontaneously recovered patients, than of those severely paralyzed or passively immunized. The latter are more liable to reinfection.

The value of early administration of serum was forcefully brought out. The complete recovery of all the preparalytics, the 50 and 41 per cent recoveries among those treated, respectively, on the first and second day of paralysis, and the 27 per cent of recoveries among the untreated, are indisputable figures. Untreated control groups are not permitted at the County Hospital, but among the outside cases there are always a large number who refuse serum and thereby furnish a control such as that mentioned. The 1930 epidemic also showed the value of serum therapy when it is recalled that the mortality rate among hospitalized, serum-treated cases, was 3.1 per cent as against 7.6 per cent for the county at large, including the untreated.

Prophylactic serum was judiciously omitted from the paper. The Board took no stand on the question, because of the inconclusive experimental data available.

The figures on "bulbar" deaths and those from respiratory musculature paralysis, bring up the question of the Drinker respirator. Our experience at the County Hospital has been that medullary involvement results in "cardiac death," from vagus inhibition, in 100 per cent of cases. Some recovered respirator cases have had cranial nerve palsies representing the encephalitic form of the disease, but their respiratory difficulty has been phrenic (cervical) or intercostal (thoracic) paralysis, and not truly "bulbar" (medullary). The conception that the respirator saves cases with bulbar paralysis is erroneous.

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John C. Ruddock, M. D. (1930 Wilshire Boulevard, Los Angeles). — Doctor Pomeroy must be complimented on his very thorough résumé of the situation in Los Angeles County during the recent poliomyelitis epidemic, which began early in the spring of 1934, and lasted throughout the summer. The epidemic was prophesied by Doctor Pomeroy's department in a careful analysis of its records, which began to show an increasing incidence in poliomyelitis cases.

From a public health standpoint, it was necessary to find ways and means of combating this threatened epidemic. It was necessary that the public be not alarmed, and also that complete coördination be had between the executive heads of all local health departments, as well as harmonious arrangement with the practicing physicians, so as to be on the lookout and suspect cases of poliomyelitis.

Los Angeles County has a peculiar set-up, inasmuch as there is apt to be conflict of authority in regard to combating a major epidemic. There is a County Health Department, which has charge of all the rural areas of Los Angeles County, as well as certain municipalities in that county. In addition to this, there are the health officers of the city of Los Angeles, city of Long Beach, city of Pasadena, and city of Vernon. In addition, we have the School Health Department, which overlaps the work of all these various health department units. The Los Angeles General Hospital receives contagious cases from each and all of these various health units; and the treatment is instituted by the staff of the General Hospital rather than the health department.

Early in the epidemic it was prophesied that this epidemic would be a severe one and that it was essential that some unit might function that would coördinate all these various factors. Such a unit was formed, as described by Doctor Pomeroy, and met weekly throughout the period of the epidemic. Its influence was far-reaching, in that it carried on an intensive educational program among the physicians of the county; it adjusted and regulated the various preventive measures as adopted by the local health departments, all of which acted as a unit, and not independently; it allayed the fears of the public and disseminated accurate information throughout the press; it was serviceable in obtaining proper hospitalization and follow-up work on various cases reported, and also instrumental in arranging for the obtaining of muscle checks by competent physiotherapists, following the epidemic.

Such a coördinating unit is essential in large centers of population where there are multiple health officials whose duty it is to protect the public in case of major epidemics. Where each and every health unit is operating and acting independently of every other one, much conflict may occur in the attempt to gain one end, namely, control of the epidemic.

The fear of poliomyelitis becomes very great among the lay public when knowledge is disseminated by

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* Howitt, Beatrice: J. Infec. Dis., 51:565 (November and December), 1932.

rumor. This was evident in the early days of our epidemic, when several hundred persons applied daily to the Los Angeles General Hospital for admission for themselves or their children. The hospital was forced to accept these cases until they were proved not to be poliomyelitis, and hospitalization became a major problem within a few days. With the establishment of this Poliomyelitis Board, and a full explanation to the public concerning the situation, stressing precautional measures and prompt adequate medical care, this acute hospital situation was relieved.

I cannot recommend too forcibly the establishment of a coördinating unit, carefully selected, to arrange policies, to prevent and control major epidemics, in every large center of population where multiple health units are in existence.

MORBIDITY INCIDENT TO PREGNANCY[*]

By Emil J. Krahulik, M.D.
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It seems quite natural that one country, one hospital, one clinic, or even one individual should desire to compare results with another, for in this way we are inspired to improve our condition. In the United States, at the present time our attention is focused on maternal mortality. Comparative tables give us the unenviable position of having one of the highest maternal death rates in the world. It is exceedingly urgent that all forces be concentrated upon reducing this embarrassing situation.

IMPORTANCE OF MORBIDITY INCIDENTAL TO PREGNANCY

There is another consideration which is even more important than fatalities, and that deals with the morbidity incidental to pregnancy. When we concern ourselves with mortality alone, we take into account only our complete failures. For some years various reports have made comparisons of the respective morbidity, as well as mortality. While there are some minor differences in the evaluation of morbidity, usually it is defined as an elevation of temperature to 100.4 degrees Fahrenheit for two successive days. Although this may be the only available yardstick, capable of mathematical interpretation, it is very inadequate and misleading. A febrile puerperium may leave no after-effects whatsoever, while a patient without any elevation of temperature may have suffered damage which will never be corrected. In speaking of morbidity we cannot be content with thinking only of a febrile puerperium, but we must include also any damage or symptom which may produce incapacity or annoyance. Only recently a patient asked me if it was safe to have another baby, inasmuch as she has had so much pain in the coccyx since the first baby came that she can hardly remain seated. If we examined our patients six months or a year postpartum, we would discover a number of items that might be deserving of tabulation, and would really be an evaluation of our unfavorable results. The more common ones would be lassitude, headache, pain in the abdomen, backache, urinary sphincter incompetence, anemia, lacerations, retroversion, and subinvolution. It does not follow that all of these are the result of faulty obstetrics; but when such disabilities occur as a result of pregnancy or are aggravated by it, it is our responsibility to reduce the incidence.

Perhaps these items sound too insignificant, but nevertheless they account for much unhappiness and suffering among women, not to mention the financial outlay for treatments, hypodermics, drugs, and even operations. It is too well known that many of these symptoms are never completely eradicated in spite of all treatments and operations. Furthermore, a gynecological patient sometimes dies following operation. Might not this be considered a remote obstetrical death, one emanating from a form of maternal morbidity?

While these items have not been included in the various tabulations, I do not mean to infer that they have been totally neglected. On the contrary, much has been done. The literature is filled with considerations of the numerous obstetrical problems, with suggestions for improving the end-results. Prenatal care has brought the focus of attention upon various infirmities, the correction of which improves the condition of the patient. During the past twenty-five years, students and internes have received abundant instruction in obstetrical management and obstetric operations, so that a larger number of women are attended by men with more mature experience in obstetrics. Hospitals also have been moved to action. Obstetrical departments have been removed from some obscure corner of a medical floor to a dignified station in the hospital. For the after-care of a new mother some items have been emphasized: but there is still a definite tendency to drop the patient as soon as she has left the hospital. More postpartum attention and instruction are necessary.

VALUE OF PRENATAL CARE

The beneficial influences of prenatal care have been felt in the management of such complications as heart disease, tuberculosis, and toxemia, by starting treatment before they become emergencies and before too much damage has taken place. In toxemia, especially, have we noticed the influence. By ordering a patient to bed on a milk diet as soon as any hypertension appears, we may spare her a life of invalidism from chronic nephritis. If treatment is begun with the first signs, these may be entirely erased, but if we wait for a higher blood pressure and for albuminuria, response to treatment will be disappointing. Too often treatment is haphazard until enough damage has been done, so that the disease becomes uncontrollable.

Blood Counts.—A blood count is made on every surgical patient and the operation postponed if it is not satisfactory. Yet very few obstetrical patients have blood counts at any time. Many patients will show an anemia beyond that expected from the relative drop due to increased blood volume. If this was not detected before she became pregnant, certainly the count and hemoglobin can be raised by giving liver substance, reduced iron, etc., before time for confinement. Might not this prevent a prolonged puerperium, months of lassitude, etc.? A non-pregnant woman will receive energetic enough treatment if her blood count is found to be low, so why not the pregnant one?

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[*] Chairman's address, Obstetrics and Gynecology Section of the California Medical Association, at the sixty-fourth annual session, Yosemite, May 13-16, 1935.

Weight Observations.— Patients are being weighed regularly to detect a sudden rise in weight indicative of toxemia, but that is an item of lesser importance. It is pretty definitely established also that an infant inherits certain qualities through its parents which determine its size, and that a small baby cannot be produced by deliberate starvation, even though overweight babies will be less likely when the patients do not overeat. Our greater concern, however, is for the mother, who will find herself considerably overweight after the baby comes. Sometimes she has not given her weight sufficient attention antepartum. Afterward she is willing to resign herself to a life of dieting, exercise (sometimes), and will be the victim for many nostrums whether diet or drug. It might have been much simpler to have exercised a bit more control when this weight was being deposited. We grant that there are concealed, not sufficiently well-understood influences, probably endocrine in origin, which control the deposition of adipose tissue, and that other therapy may be indicated besides a reduced diet.

Mastopexy.—An increasing number of women are willing to suffer the discomfort and expense of a mastopexy. Early in pregnancy the increased weight of the breast gradually stretches the connective tissue which gives the breast its support, and she is greatly chagrined to find herself with "hanging breasts" afterward. Many women elect not to nurse their babies, fearing such a catastrophe. Even that may prove disappointing. The attention must be given when she first becomes pregnant. As soon as she is conscious of increased weight, a properly fitted supporting brassière should be purchased and worn during the entire period. This must be replaced after delivery by another brassière, whether she is nursing the baby or not.

Constipation.—Constipation frequently follows confinement. When the situation is critically analyzed, we find that it really began in early pregnancy. A definite routine should be instituted during pregnancy and, if insufficient, should be supplemented with mild laxatives taken regularly. The fear of constipation often prevents patients from taking small amounts of laxative regularly and, instead, occasional large doses are taken which I think are far more detrimental. This mismanagement frequently brings on hemorrhoids. These also may disappear if a vigorous routine is instituted at once. The patient should go to bed, and wet, astringent dressings and an ice-bag should be applied until they disappear.

Bladder Irregularities. — Bladder irregularities occur frequently enough, so that several writers have repeatedly pointed out the importance of keeping the bladder empty during labor, and not allowing it to become distended postpartum. I sometimes wonder if some of the symptoms do not result from insufficient lubrication of the catheter. Nurses are often careless about this item.

ASEPSIS AND TECHNIQUE IN DELIVERY

The delivery itself cannot be considered in any other light than a major operation of the most dignified character. The increasing emphasis placed on asepsis and technique is well merited. If a simple surgical operation is deserving of an anesthetist and two nurses, why not a delivery? If special training and qualifications are necessary for surgery, why not for obstetrics?

The personnel of an operating room is so arranged as to properly manage a certain number of operating rooms. Operations are so scheduled as to be capable of handling in an orderly manner. Deliveries, unfortunately, cannot be scheduled, nor can they be postponed until a room is available, nor will they wait until the proper nurses are available; and yet the delivery suite organization seldom provides for more nurses than can properly manage one delivery room. Somehow the hospitals do not sense their responsibility for more than one room, and when two or three deliveries occur at the same time or in close succession, they are blissfully satisfied in having "gotten by."

Perhaps the budget will not allow for more people constantly on duty. In that event it should be possible to draft additional nurses, previously trained, from the operating room, the nursery, or from a clean floor. These people must have experience in the routine of your delivery room, and be qualified and ready to adapt themselves to sudden changes in duties. Only when such drafting is possible, should it be permitted for a delivery suite to be manned for minimal capacity instead of maximal. It is unfair to the doctor and certainly to the nurse, not to mention the patient, to expect a nurse to scrub for a case unless she is accustomed to substituting occasionally and knows the routine of this delivery room.

Importance of Repair Operations.—Many doctors are criticized for having left their patients in bad condition and for not having repaired them. This is not always the fault of the obstetrician. To do a satisfactory perineorrhophy, the patient must be asleep. Competent anesthesia is usually lacking. Here the obstetrician may be at fault in not educating the public to expect, and be willing to pay for as good anesthesia at childbirth as they would expect to provide for the simplest operation. We fail to inform our public of the advancements made in obstetrics, and that a husband is no longer considered competent to supply as an anesthetist. In many hospitals an interne is called to perform this task, which often interferes with his sleep and with his other duties, making it a rather unwelcome call. Some doctors are in the habit of calling a private anesthetist, but it is not always easy to call him at just the right time. The busier ones are not willing to wait around with the obstetrician for the cervix to dilate. A probable solution is for at least one full-time anesthetist to be constantly available. Economically planned hospital budgets will not permit this. Nurse anesthetists might fill the requirement at a lower figure, but cannot legally be employed in California.

Whatever problem this presents, it does not detract from the fact that lack of skilled anesthesia, among other things, prevents the patient from receiving the best type of attention in the repair of lacerations and episiotomies. A perineorrhophy is entitled to the same consideration postpartum, as it will receive some years later in the operating room. Perhaps it is a misfortune to have so few immediate effects from poor anesthesia, for we continue to be so tolerant.

During the past two years, under such régimes we have routinely repaired the cervix, as well as the perineum, and have demonstrated that it can be done efficiently immediately after delivery, with better ultimate results than cauterization. Furthermore, repairing these cervical lacerations, we are closing an avenue for slight afebrile parametrial inflammations, which, I think, are responsible for many chronic pelvic pains. A secondary trachelorrhophy will come too late to cure these results.

POSTPARTUM CARE

Only little can be said to amplify the years of effort exerted on prenatal care and infant welfare. The same effort, however, has not yet been directed to postpartum care. Obstetrical departments have become commercial footballs. The hospital managements try to make a hospital attractive to the public by offering bargain obstetrical rates. Patients are allowed to leave the hospital in ten days because the hospital has a ten-day flat rate. Usually no exception is made for those with prolonged labors or operative deliveries. We will assume that they received good care during this time, but is ten days long enough for all patients? There might be some difference of opinion as to how long a puerpera should remain in bed, but there is not much argument among surgeons and gynecologists as to how long a perineorrhophy patient should refrain from being on her feet. Why should there be any difference?

The situation might not be so bad if the patient remained in bed after she returned home. Perhaps she planned to do this, but no one warned her that taking care of a baby is a twenty-four-hour job, and the husband, although intensely solicitous, never thought to provide a helper. Eventually they will get one, but in the meantime the mother will become a nervous wreck and it will take her months to recover her poise. Until the baby is a month old the mother should be relieved of all responsibility for his care. We must remain cognizant of the fact that taking care of a baby today is a much greater task than it was years ago. The mother of today has listened to so many lectures and has read so many pamphlets, that the standard she sets for herself is too high.

Some obstetricians who recognize the necessity of postpartum care supply their patients with definite routines to be followed at home, requiring a certain number of hours' rest daily or, better, stating exactly how long she may be up. Should we not expect a more complete return to normal of stretched tissues, and a more normal involution of the uterus, if the patient is more cautious about postpartal activities?

Reference has already been made to the patient's increased weight. If she becomes careless during the puerperium, she may still acquire some undesired poundage. High calorie diets are suggested to stimulate lactation, but probably are overbalanced by the pace of civilization, and result in more weight for the mother but not much more milk for the baby. Breasts may become pendulous during the period of engorgement and lactation, and so the attention to support instituted when the patient first became pregnant must be continued.

Attention to the bowels must be continued until they are normal. The release of abdominal pressure and the patient's inactivity makes her very susceptible to constipation. A definite routine should be supplemented by a lubricant and regular broken doses of laxative. The patient must not strain, nor must the rectum be allowed to remain distended very long. I do not see how an occasional enema over a period of a few weeks could produce a habit, but it is simple enough to realize how a distended rectum for hours might produce permanent damage by retarding involution of the vaginal walls.

More blood may have been lost during delivery than is usual; yet how often is anything done about it? The six weeks' examination should include a hemoglobin determination, and advice for building it up to a normal level should be given.

While enlarging upon the care due women postpartum, reference must be made to the attention they receive after abortions and miscarriages. Rarely can a patient be made to realize the value and necessity of remaining in bed even for a few days. Yet, when a gynecological patient is closely questioned about the onset of certain symptoms, we find that many followed an abortion. In many cases of criminal abortion she has been advised to go about her usual routine as though nothing had happened. Too frequently cases of incomplete abortion, coming to the hospital for curettage because of profuse bleeding, are discharged in a few days without any special directions. The fact that the patient has lost a large quantity of blood is completely ignored.

HOSPITALIZATION IN MATERNITY PRACTICE

Perhaps it is of little moment to speak about improving hospital attentions which are already quite satisfactory, because the large percentage of babies continue to be born at home, with only the barest essentials in equipment and nursing service. Only an exceptional case will have received anything like proper repairs. Whether these people present a higher percentage of morbidity, we will have no way of demonstrating until new standards of evaluating morbidity become devised. At any rate it is safe to assume that most patients delivered at home will not be so well off as those delivered in a hospital. Perhaps a critical analysis and examination of every patient at six months would tell us just how effective our work is.

Exponents of the various forms of socialized medicine seem to want to do something for obstetrics. A bill submitted to the Assembly of the 1935 California Legislature hinted at such a discrimination. Let us suppose that movements like this did become nation-wide, and obstetrical departments, manned by full time, well-trained staffs, were subsidized and became available for moderate costs. Would these institutions compete with each other to give better service and decrease morbidity, or would they degenerate into a sort of minimal routine? Theoretically, it would seem so, but most doctors, as well as other people, need personal incentive.

Arrangements could easily be made for the centers of population, but the rural territory would be more difficult to accommodate. It would not be practical to scatter numerous maternity hospitals over the country, although it would be practical and possible to furnish capable consultants and nursing service from numerous stations placed at regular intervals over each state, and not compel the general practitioner to wade into situations for which he is not qualified.

It has been proposed that a direct cash repayment be made by the federal government to each mother for all, or a certain portion of money expended for hospitalization or for nursing care. Some countries reward each mother with a fixed sum of money. When this money is actually used for intrapartum and postpartum attentions, it is a definite contribution toward the reduction of maternal morbidity.

IN CONCLUSION

In conclusion, I will simply emphasize the need for more adequate and more informative standards with which to measure our unsatisfactory results. When these are tabulated, greater attention can be directed to the details responsible for the unfavorable percentages. After a certain amount of urging, we hope the hospitals will provide more complete delivery-room facilities, and even skilled obstetrical anesthetists. The antepartum and the more remote postpartum management will continue to be the responsibility of the individual obstetrician. These will require efficient and persistent educational propaganda, for the physician as well as the patient, such as is so effectively instituted for antepartum care.

1680 North Vine Street.

GENERAL PARESIS—THE USE OF DRUGS IN ITS TREATMENT*

By Eugene Ziskind, M. D.
Los Angeles

Discussion *by George S. Johnson, M. D., San Francisco; Stanley O. Chambers, M. D., Los Angeles; Clifford W. Mack, M. D., Livermore; Samuel D. Ingham, M. D., Los Angeles.*

SINCE our experience in the clinic for neurosyphilis at the Los Angeles County General Hospital has not been reduced to a statistical basis, we have limited ourselves, in this paper, largely to conclusions drawn from a survey of the recent literature. The inadequacy of the routine antisyphilitic remedies (arsphenamins and heavy metals) for general paresis is universally acknowledged. Hence, in the treatment of this disease, one thinks chiefly in terms of tryparsamid or some form of fever therapy.

IMPORTANCE OF ARSPHENAMINS AND HEAVY METALS IN NEUROSYPHILIS

Nevertheless, it may not be amiss to emphasize the importance of the arsphenamins and heavy metals in neurosyphilis. Tryparsamid is not spirocheticidal. After malaria, although spirochetes can no longer, as a rule, be demonstrated in the brains of paretics at necropsy, active lesions in other organs may still be flourishing.[1] Hence, all patients, whether treated by fever-producing agents or tryparsamid, should have additional treatment with the classic antiluetic drugs. Probably one is never justified in using the latter measures at the outset of the treatment. Much valuable time may be lost in this manner, because arsphenamins and the heavy metals do not check the progression of the cerebral pathology.

BISMUTH THERAPY

A word should be said as to the rôle of bismuth in the treatment of neurosyphilis. The work of Hanzlik, Mehrtens, and their co-workers,[2] has definitely established the increased penetrability of iodobismitol into the central nervous system. But bismuth is only mildly spirocheticidal, and nowhere have results with this drug indicated that it is a substitute for tryparsamid or malaria. Its value as an adjuvant to therapy, and its superiority to mercury, are unquestioned.

TRYPARSAMID AND MALARIAL THERAPY

The use of drugs in the treatment of paresis centers about tryparsamid. This drug has a unique action. It is remarkably free from untoward effects, except for the optic nerve injury which occurs in a small percentage of patients. It is an excellent tonic, and after its administration there is usually a pronounced gain in weight and strength. Hence, it can be utilized in states of debility where it would be unwise to employ malaria or other form of fever induction. Here tryparsamid has undisputed sway and fulfils an absolute indication. Its use in patients immune to malaria is indicated in that, statistically, the years of clinical trial have demonstrated the value of tryparsamid, whereas similar data for the nonmalarial type of fever therapy are still forthcoming.

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Whether or not tryparsamid is just as efficacious as malaria in general paresis, is an intriguing question. Statistics in this field are very difficult to compare, since the numerous variants in each series must be interpreted by each author. However, what statistics there are reveal that the results with either form of therapy are very much alike. The Wisconsin workers, who were the first to use tryparsamid clinically in 1922,[3] have recorded the largest series of cases treated with this drug alone. Reese, in his report on 317 patients for this group in October, 1933, stated[4] that the results were equally as good as those obtained with malaria. Clinical arrests or remissions were obtained in 54 per cent. The blood Wassermann test was rendered negative in 49.2 per cent, and was reduced in intensity in another 35 per cent. The spinal fluid Wassermann became negative in 25 per cent and was reduced in another 50 per cent. These results compare favorably with those established for malaria, although Moore[5] reports a larger number of serologic reversals for the malaria-treated cases. Solomon,[6] as late as 1931, states that although the question cannot be answered absolutely, he believes that the results with malaria and tryparsamid are equally good. All reports treating of the use of tryparsamid in the literature are very favorable, and I have not been able to find a single disparaging one.[7]

Statistics by Moore[8] indicate that return of the spinal fluid to normal is usually delayed until eighteen months after the malarial treatment, and that the percentage of such changes increases over a period of four more years. In three years 25 per cent of the fluids are normal, in four years 50 per cent and in five years, 75 per cent. Similarly he reports blood Wassermann reversal by malaria in 35 per cent of the cases after two years, 45 per cent after the third year, and 65 per cent after the fourth year. As stated above, it is difficult to compare these figures directly with those for tryparsamid, and the problem will never be adequately settled until a controlled series of alternate cases treated with tryparsamid and malaria is conducted. This we propose to do at the clinic of the Los Angeles County General Hospital.

The enthusiastic early reports for tryparsamid by Stokes,[9] O'Leary,[10] Moore,[11] Wile,[12] Schwab and Cady,[13] and others,[14,15,16] were not followed up subsequently. It appears that these men have adopted malaria as the treatment of choice, using tryparsamid in an auxiliary fashion or as an alternate therapy where the former cannot be utilized. Nowhere does one meet with a statement of the exact reason for this change. The impression gained from a perusal of the literature is that tryparsamid was not given up for any good and substantial reason. The danger to the optic nerve should not be responsible for this attitude, since the dangers with malaria are much greater. Furthermore, as noted a syphilologist as Moore recommends tryparsamid in the follow-up treatment of all cases which have had malaria. Since tryparsamid is being employed after malaria for the small number of additional remissions expected, estimated at from 2 to 5 per cent, the fear of optic nerve damage cannot be a serious one.

Moore and others have commented that the results with malaria plus tryparsamid are better than with either alone, and that patients not helped by the one may be benefited by the other. Kaiser and Amdur[17] cite eight cases not benefited by tryparsamid, one of which responded favorably to malaria, and fifteen cases not responding to malaria, two of which were helped with tryparsamid. One cannot say, of course, that the outcome would have been different if the original therapy was repeated or continued for a longer period. However this may be, one carries away the impression that tryparsamid produces results which may be as good as those obtained with malaria. The lesser risk and smaller expense of tryparsamid therapy, together with its greater tonic properties, would entitle tryparsamid to first place in the treatment of paresis, if this comparison with malaria could be substantiated. More work is needed on this subject.

END-RESULTS

End-points in therapy are a weighty consideration. Primarily clinical or symptomatic improvement is the most important criterion. Serologic improvement is chiefly of value because of its prognostic significance as to relapse. The generally accepted attitude is that blood Wassermann fastness is not uncommon in neurosyphilis, and is not necessarily a bad omen. The reversal of spinal fluid serology, however, is more important from the standpoint of prognosis. As mentioned previously, one must realize that serologic reversal is slow in its onset and may be progressive over a number of years after treatment has ceased. Treatment should not be stopped under the three-year period. If the spinal fluid is not normal at this time, then four out of five will not have any relapse; the relapses will occur for the greater part within five years.[18] Such patients should be observed periodically for five years, and treatment repeated if relapse occurs.

IN CONCLUSION

In conclusion, therefore, it may be stated that:

1. Spirocheticidal therapy with arsphenamin and bismuth represents a necessary adjunct to either tryparsamid or fever therapy in every case of general paresis. This treatment should follow, rather than precede, the special forms of therapy.

2. Tryparsamid is absolutely indicated in states of debility where fever therapy represents too great a hazard.

3. Tryparsamid is the treatment of choice when the patient is immune to malaria, the other forms of fever therapy being in a state of experimentation at this time.

4. Statistically, the results of tryparsamid and malarial therapy compare favorably. Should further study substantiate this, tryparsamid would be

the treatment of choice because of safety, cheapness and greater tonic properties than malaria. A controlled series of cases is desirable.

5. In the treatment of paresis, the immediate goal is clinical improvement. Serologic reversal in the spinal fluid is of value because of its prognostic significance and may be worthy of prolonged treatment. Three years of therapy, including a course of pyrexia, should be employed before treatment is discontinued in a serologic refractory case.

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DISCUSSION

George S. Johnson, M.D. (Stanford University Hospital, San Francisco).—Doctor Ziskind has performed a distinct service in directing attention to the need of a varied approach to the problems presented by syphilis of the central nervous system. The results already obtained by the use of the agents mentioned give encouragement to continued efforts in the treatment of this condition, so long considered hopeless. It should be emphasized in relation to the use of drugs, in the late manifestations of the disease, that these tardier stages are largely preventable by proper care during the early stages. The increasing trend is to regard no patient as cured in the primary, or secondary stage, until there has been an adequate period under observation (two years), without treatment and without signs or symptoms of the presence of disease. This must necessarily include spinal-fluid examination. Continued studies along the lines indicated in this paper should do much to clarify the problems presented.

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Stanley O. Chambers, M.D. (1260 Roosevelt Building, Los Angeles).—One cannot help agree with Doctor Ziskind in his therapeutic conclusions. They are very true, and if confined to the choice of a single drug in the treatment of paresis, tryparsamid would surely represent that choice. Emphasis, however, should be placed on the toxicity of tryparsamid, for, without the utmost care and observation, optic nerve damage is constantly a threat. Optic nerve injury occurs in about 2½ per cent of cases under treatment. Repeated checking of visual fields and acuity should, therefore, be an integral part of tryparsamid therapy.

Tryparsamid, not being spirocheticidal, requires the use of arsphenamin or its derivatives in conjunction for that purpose.

Doctor Ziskind has wisely avoided the controversy existing in the field of fever therapy. Although sufficient evidence exists to assure us of its definite value, yet, as a sole specific agent, it has not held its position.

The penetrability of the central nervous system by the newer bismuth preparations has recently been questioned by the work of Klander. The therapeutic pendulum is slowly swinging back to the advisability of insoluble bismuth salts, rather than the soluble. Recent observation in my own department suggests a relation between bismuth (soluble or insoluble) and fever in the penetration of nervous-system tissues. Without fever, bismuth does not appear to penetrate the central nervous system. Yet, when fever is utilized along with the administration of bismuth, nervous-system tissues are apparently affected. If such is proved to be true, therapeutic direction in such phases of syphilis is open to a new field of principles.

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Clifford W. Mack, M. D. (Livermore Sanitarium, Livermore).—The treatment of dementia paralytica by malaria or other fever-producing agents, notwithstanding the spectacular results, has not abolished the need for drug therapy. We are dealing with a generalized disease, as well as one that affects a particular organ in the body. The author rightly points out that, even after malaria, we need an agent that has not only an effect upon spirochetes in other parts of the body, but one that also has a decided constitutional effect. The arsenicals are particularly helpful in this regard, and the consensus of opinion seems to be that tryparsamid is most efficacious in neurosyphilis. The other forms of arsenic are also of value and can be used where there is danger or fear of the injurious effect of tryparsamid on the optic nerve. Also, there are instances in which malaria cannot be used because of the debilitated condition of the patient, or because the family refuses consent for such heroic measures.

It seems that the ideal method of treatment in the ordinary case is malaria or fever therapy followed by tryparsamid. The question as to which is the most suitable agent is, after all, academic rather than practical. We cannot too often point out that the patient must be treated, and not just the disease, and there may be drugs other than the heavy metals that have their place in bringing about the rehabilitation of the individual.

The author has covered the subject most thoroughly, giving us information that should be very helpful in our treatment of paresis.

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Samuel D. Ingham, M.D. (1253 Roosevelt Building, Los Angeles).—The treatment of neurosyphilis in private practice offers problems different from those met with in hospitals or clinics, and a physician is often under the necessity of doing the best he can under the existing circumstances, even when it would be better for the patient if he could be institutionalized. It is often impossible, for various reasons, to carry out malarial therapy or hyperthermia treatments, and it is, therefore, necessary to make the best compromise possible in each case. Experience of recent years has demonstrated the value of bismuth and tryparsamid for the treatment of ambulatory neurosyphilis in private practice. Some statistics indicate that results of persistent treatment, by means of the drugs now available, especially tryparsamid, compare favorably with results from malarial therapy. It is true, however, that malaria benefits some patients who are resistant to all other treatments.

CHRONIC PARANASAL SINUSITIS*

TREATMENT WITH UNDENATURED BACTERIAL ANTIGENS

By M. N. Hosmer, M.D.
San Francisco

Discussion *by William H. Strietmann, M. D., Oakland; Forest C. Kracaw, M. D., Oakland; Jau Don Ball, M. D., San Francisco.*

THE treatment of chronic sinus infections has long been a major problem in otolaryngology. Many modes of treatment have been suggested in the past, the majority of them, however, failing to meet the test of clinical trial; and most of us have been left in the position of continuing to search for some procedure which would be an improvement over previous methods.

At the present time the treatment of chronic sinusitis involves a choice between surgery and conservative medical methods. The indications for surgical treatment and the general surgical approach have been adequately defined. It will be agreed, for example, that deviated nasal septi should be straightened to provide ample drainage and ventilation; and certainly surgery is the method of choice in the management of chronic maxillary sinusitis. But I must say that in the field of ethmoidal surgery the results have not been satisfactory in a sufficiently large percentage of cases. Medical treatment—by which I mean local or topical treatment—varies with the individual physician. Minutiae of technique and medicaments have been stressed even to the point, in some instances, of obscuring principles. That a proper application of medical and surgical methods has produced good results in a majority of cases can be fairly stated. There are, however, a certain number of patients who, in spite of all sorts of treatment both surgical and medical, fail to improve. It seems to me that in these patients surgery fails to eradicate the infected tissue, and that medication of chronically infected tissue is neither logical nor productive of results. These cases present the need for immunization. Here again it is common experience that vaccine therapy directed to this end has not been uniformly successful, but it is quite possible that a large measure of the failures may lie in the type of vaccine employed. For this reason, I welcomed the opportunity to apply clinically a new type of antigen,[1] developed by Dr. A. P. Krueger of the University of California. My associates, Doctors Martin and Houston, and myself have employed Krueger's undenatured bacterial antigens in the treatment of chronic sinusitis of certain types for the past two years, and I should like to report on this group of cases.

THE UNDENATURED BACTERIAL ANTIGEN

It is Doctor Krueger's concept that the orthodox vaccine contains antigenically altered substances due to the heat and chemical treatment employed in killing the bacteria. The bacterial proteins, which represent the major immunizing fraction, have been demonstrated to be readily denatured by heat and chemical treatment. To obviate these changes, Krueger has developed a technique which, briefly, consists in:

1. Harvesting cultures grown on suitable media, in isotonic Locke's solution, and washing several times to remove metabolites.
2. Grinding in a special mechanical grinder to disrupt the cells.
3. Removal of intact cells, which escape grinding, by ultrafiltration through the acetic collodion membranes of Krueger and Ritter.[2]
4. Standardization of the filtrate on the basis of native protein content.

The filtrate consists of two components: first, a colloidal phase of bacterial fragments, and second, those unaltered constituents which have gone into true solution. The filtrate is employed without further modification for hypodermatic administration. For topical use in immunizing the paranasal mucoperiosteum, the filtrate is made up in one per cent peptone with 1 : 50,000 merthiolate. The peptone serves as a buffer for the merthiolate, and also increases the absorptive capacity of the mucous membrane.

PROCEDURE IN TREATMENT

Our cultures are taken from the infected sinuses, or from the nasal fossae, on swabs which are placed directly in plain broth and brain-broth media. From these field cultures the usual bacteriological isolation and identification are carried out. Strains of organisms, which are deemed to be pathogenic, are employed in preparing the antigen.

The immunization procedure may be divided arbitrarily, for purposes of description, into two parts, although in actual practice both are carried out simultaneously.

A. *Topical Immunization.*

The local treatment of the paranasal sinus mucoperiosteum with antigen is of primary importance. As a preliminary to it, the nasal mucous membranes are shrunken with cocain or ephedrine, and the sinuses are filled by the Proetz[3] suction displacement method. This technique, described several years ago by Proetz[3] of St. Louis, consists first in placing the patient in a recumbent position, with the head tilted well backward. Then five cubic centimeters of the antigen are instilled into each nostril and allowed to settle for a moment, after which mild suction is applied through the nares. The suction removes air from the sinuses and allows the antigen lying over the openings to flow into them. It should be stressed that this technique contributes materially to the success of the immunization program, for simple instillation of the solution into the nose, or packing the nose with cotton tampons saturated with antigen, is altogether inadequate as a means of bringing the immunizing material into contact with the infected tissue. We do make an exception in patients who have had complete ethmoidectomies; some of these cases at times present a residual mucous membrane which is wet and boggy. In such instances, we pack the infected area with cotton tampons saturated with antigen and leave them in place for fifteen or twenty minutes. An exception is made, also, to the displacement technique in those who complain of violent headache after the treatment. Apparently the solution precipitates a severe reaction within the sinuses, which causes the nasal mucous membranes to swell and retain the infected material instead of allowing it to drain out as it should. We have not had any dangerous reactions ourselves, but one very severe one has been reported. In such cases we resort to the cotton tampons. Topical treatments are administered two or three times a week, depending upon the patient's response.

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* Read before the Northern Counties Eye, Ear, Nose and Throat Society at Sacramento, September 20, 1934.

B. *Systemic Immunization.*

The local immunity conferred by topical treatment is reinforced by general immunization. We utilize for the latter purpose two dilutions of antigen; the stronger contains 15 milligrams of native protein per 100 cubic centimeters and the dilute material contains one-tenth this amount. We begin with the dilute antigen, administering an initial dose of 0.05 cubic centimeter intradermally and 0.05 cubic centimeter subcutaneously. Injections are given, as a rule, at three-day intervals, increasing the intradermal dose to 0.1 cubic centimeter and the subcutaneous dose to 0.1 cubic centimeter for the second treatment. At each subsequent treatment, the intradermal injection of 0.1 cubic centimeter is repeated, and the subcutaneous dose is gradually increased, depending upon the patient's response, until 0.5 cubic centimeters can be given. At this time, administration of the more concentrated antigen is begun; it offers a means of using a large dose without increasing the fluid volume. The dosage schedule for the concentrated material is essentially the same as that outlined for the diluted antigens. As treatment continues, the interval between injections can be increased to a week, later to ten days and, finally, to two weeks.

The average duration of treatment varies considerably from patient to patient, depending to some extent upon the type of infection present. Some individuals show improvement inside of from four to six weeks, while others may require two months or more. The general average would be in the neighborhood of thirty treatments. We are extremely careful to avoid systemic reactions due to overdosage with the antigen, and we always attempt to administer an amount under the reaction level. Intradermal injections are constantly employed because of the fact, demonstrated in recent immunologic studies, that stimulation of the cutaneous mechanism reinforces the immunity conferred by subcutaneous introduction of antigen. Another important point is the avoidance of abrupt cessation of treatment. If the interval between treatments is gradually increased, a more durable and permanent immunity is conferred than if the period of active treatment is terminated abruptly.

After the first intranasal treatment there is a distinct flare-up in the infection, and the patient complains of a very profuse nasal discharge. This may be noticeable following the first three or four treatments. The discharge is pustular in character, and on microscopic examination shows active phagocytosis. This secretion definitely diminishes after one or two weeks, and one notices the gradual resumption of normal tone and color of the nasal mucosa. I have been surprised at the absence of severe local or general reactions in any of the patients we have treated. The undenatured bacterial antigen does not give the customary local reactions at the site of injection.

RESULTS

Our present series consists of fifty cases, a small number in one way, but a particularly significant group in another; for each of these patients has been under observation for a number of years during which time many sorts and kinds of treatments have been tried. All have been thoroughly examined by competent internists, many having been operated on a number of times; others have tried change of climate, but in spite of all this their infection has persisted. We have classified the end-results as *good, fair* and *unimproved.*

Criteria for Classification.

The criteria for classification have been as follows:

1. *Good.*—Relief of general symptoms, diminution in the amount of nasal secretion, relief of nasal congestion, improvement in the color and tone of the nasal mucosa, and improvement in general health.
2. *Fair.*—Improvement, but not to the extent included under "good."
3. *Unimproved.*—No change in condition after adequate treatment.

Of the fifty cases treated, thirty-one can be classified as having *good* end-results; *fair* results were obtained in thirteen cases; and six patients were *unimproved.* Considering that these were selected cases, all of whom failed to improve after extensive local, general and surgical treatment, the results are certainly satisfactory.

COMMENT

A certain amount of information can be obtained by classifying the patients in subgroups. For example, among the thirty-one patients who had good results, fourteen had chronic ethmoiditis with no surgical intervention. It is this type of case which has given us the most trouble in the past; and, considering the uncertain effects of intranasal and radical ethmoidal surgery, I feel that the good results obtained in every one of these patients represents a distinct advance in therapy. The remaining seventeen grouped under the head of "good results" had had all sorts of surgery. Six had single or double radical antrum operations, but had not had their ethmoids operated. The antra were clean, but the ethmoids had remained infected for a period of years after the antrum surgery. Six had had exenteration of all the sinuses except the frontals, yet continued to discharge pus. One had had complete exenteration of all the sinuses, including the frontals, yet he had frequent colds and a persistent purulent nasal discharge. Four had histories of simple intranasal windows opening into the antra, with removal of the anterior third of the middle turbinates. Every one of these patients responded favorably to the antigen.

Among the thirteen patients classified as exhibiting fair results, the majority stated that they felt better than they had before treatment was begun; and on examination they showed a notable improvement in the sinus pathology. It is possible that the failure to continue on to good results in this group was due to inadequate cultures. I am now in the process of rechecking these cases and hope to be able to show better results later.

Of the six patients whom we have classified as unimproved, two failed to take sufficient treatment, three showed no improvement with adequate treatment, and one patient—presenting a low-grade pansinusitis connected casually with a severe polyarthritis—rejected treatment after suffering arthritic flare-ups subsequent to minute injections of the antigen.

CULTURAL DATA

Our cultural data from these patients is given in Table 1.

Table 1.—*The Distribution of Pathogenic Organisms Isolated from the Fifty Cases of Chronic Sinusitis*

Bacterium	Number of Patients Harboring Each Organism
Staphylococcus aureus hemolyticus	48
Staphylococcus aureus non-hemolyticus	4
Streptococci:	
Type Alpha hemolytic	30
Type Alpha prime hemolytic	16
Type Beta hemolytic	5
Type Gamma	2
Microaerophile hemolytic	2
Hemophilic gram negative rods	10
Hemolytic B. coli	4
Pneumococci	2

DISCUSSION

Using Krueger's undenatured bacterial antigens for topical and general immunization in chronic sinusitis, we have obtained good end-results in 62 per cent of our cases; fair results in 26 per cent, and no improvement in 12 per cent. These figures correspond well with those reported by Kracaw[4] in a similar clinical study. He obtained 66 per cent of cures, as compared with our 62 per cent, and he reports satisfactory improvement in 95 per cent of his cases. This last figure would correspond to the 88 per cent of our cases classified under *good* and *fair* results. I must say, however, that I consider our series of cases a much more rigorous test of this treatment than Kracaw's series represents, for the reason that Kracaw employed the method in all instances where it seemed indicated, while we did not use the antigens until all other procedures at our disposal had failed.

After two years of experience with undenatured antigens, we feel that these materials can be used with advantage in immunization of patients with chronic sinus infection, provided ample drainage and ventilation are taken care of. This method will not replace adequate surgery in the management of chronic maxillary sinusitis, but it is certainly the method of choice in the treatment of ethmoiditis. We have not used this method on true allergic cases, as most of them will respond to careful treatment after the proper tests have been done.

The immunization of the patient with undenatured antigens cannot be carried out on any arbitrary basis. It requires thoughtful supervision and allowances for individual differences in the patients to get the best end-results. Furthermore, permanent improvement requires a considerable number of treatments — on the average, about thirty. This corresponds with the experience of Kracaw, who found that a certain number of his patients did not improve until the seventh to tenth week of treatment. While this means a considerable period of medical treatment for the patient, it offers very good promise of a favorable response in properly chosen cases.

CONCLUSIONS

1. The undenatured bacterial antigens of Krueger were used during the past two years in the treatment of fifty patients suffering from chronic sinus infections. The patients upon whom this treatment was administered were selected because all other available methods of treatment had failed to produce improvement.

2. The results may be classified as follows: (*a*) Sixty-two per cent of *good* results—that is, relief of general symptoms, diminution in congestion and secretion, improvement in color and tone of nasal mucosa and improvement in general health; (*b*) 26 per cent of fair results, or definite improvement, but not to the extent included under *good*; (*c*) and 12 per cent unimproved.

3. Our results confirm the clinical findings of Kracaw and indicate that favorable effects may be expected of this method in the treatment of certain types of chronic sinusitis.

384 Post Street.

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DISCUSSION

William H. Strietmann, M. D. (230 Grand Avenue, Oakland).—The approach to any problem of incarcerated infection necessarily resolves itself into the solution of two problems: first, the release of such pent-up foci, and, second, such measures as may aid in building up the individual's corporal resistance. The surgical procedures incident to relief of chronic foci in the paranasal sinuses are old enough to be of common knowledge, and differ in no wise from the treatment of any other incarcerated infection.

It is also common knowledge that until very recently the specialist in this particular field has looked upon the use of any specific therapy other than surgery with many misgivings, if not absolute indifference. As a devotee of the principles behind vaccine therapy since its inception, I have for years supplemented the usual surgical treatment of sinusitis with autogenous vaccine therapy, and confess that in many instances I have even attempted to substitute the latter for the former. But experience soon proved this to be fallacious: all pent up infections must first be vented.

The matter of method of preparation of antigens also leaves much to be considered; though after a number of years of experience with Doctor Krueger's undenatured bacterial antigens, as opposed to others, I feel that there is much to commend them.

But, after all, the success of the treatment seems to me to depend upon the combined procedures of surgically providing the vent to any focus, and subsequently using antigens to further the individual resistance or immunity against the infecting organism or organisms. The topical application of the lysate is still of questionable value, in my opinion. The use of the antigen parenterally, I think, has long since proved its efficaciousness. The lysate frequently causes reactions locally, which simulate an allergic response with marked congestion, and the production of an eosinophilia in the secretions obtained from the nose. This has led to my using it only if it causes no such local manifestations. But the use of the fragmented, undenatured antigen of Doctor Krueger has never, in my experience, been attended by either local or systemic reactions of any consequences. I would not, however, mean to indicate by this that there is no likelihood of such reactions, but rather that, if the usual principles behind vaccine therapy are observed, with gradually increasing dosage, there is no reason to anticipate any untoward reaction.

It is gratifying to find the nasal surgeon interesting himself in the complete treatment of this condition, which heretofore we internists have frequently had to use supplementary to the surgical venting of incarcerated foci.

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Forest C. Kracaw, M. D. (411 Thirtieth Street, Oakland).—Doctor Hosmer has presented a most interesting series of cases treated by immunization with the undenatured bacterial antigens of Krueger—a series which demands the thoughtful consideration of every otolaryngologist. I am very pleased to note that his end-results correspond so closely to those which I reported in an earlier series of cases. We are all familiar with the unsatisfactory results so often obtained in a large percentage of cases of chronic sinus infection treated by surgery, or by the usual topical and general medical means; especially those cases in which the infection involves principally the ethmoid and sphenoid sinuses.

About a year ago I presented a paper in which I advanced the opinion that, in selected cases, the immunization method outlined here offered greater promise of good results than any method in use theretofore. Subsequent personal experience has served only to strengthen in me this opinion. The series reported here by Doctor Hosmer points definitely to the same conclusion. In fact, his results are even more significant than my own, in that my series of cases included many in which no treatment other than immunization had been used, while in every one of Doctor Hosmer's cases all other means of treatment had been tried and found wanting.

I should like to mention here a point which I shall discuss at greater length in a forthcoming report. I believe that every case of antral surgery should subsequently be immunized by the use of these antigens. My experience indicates that in this way we are enabled to eradicate concomitant ethmoid and sphenoid infection, and thus prevent infection of the newly formed mucoperiosteum in the antra.

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Jau Don Ball, M. D. (450 Sutter Street, San Francisco).—I am very interested in Doctor Hosmer's findings. During three years' experience with the undenatured antigens prepared according to Krueger's method, I have been greatly impressed with their utility in the treatment of chronic infections. Clinically, one is struck by the lack of untoward reactions, and by the type of response best classified perhaps as a desensitization followed, after continued injections, by immunization.

Most of the patients to whom I have administered the Krueger type of antigen have presented histories of long-standing chronic infections. In many of these cases evidence of a low-grade sinusitis was elicited, and the question arose as to what extent this sinus infection accounted for the general systemic conditions, such as afternoon rise in temperature, arthritis, neuritic pains, etc. Direct absorption from the sinuses is admittedly small; but indirect absorption through establishment of a bowel implant is a mechanism to be carefully considered. Evidence suggestive of such a sequence is contained in the frequent histories of mild bowel disorders, and by the bacteriological findings. Of 107 cases from whom nasal and sigmoid cultures were taken, seventy-one showed the presence of identical pyogenic strains in both areas, while thirty-six of the cultures did not match. I feel, from my own experience, that a low-grade sinusitis is often overlooked in examining the patient with chronic complaints, and that such an infection probably operates through secondary bowel implants. It is this type of sinus infection which can be cured by topical and general immunization with undenatured antigens.

INTRACAPSULAR FRACTURE OF THE NECK OF THE FEMUR—ITS PRIMARY OPERATIVE TREATMENT*

By Sterling Bunnell, M.D.
San Francisco

Discussion *by S. L. Haas, M. D., San Francisco; Harold H. Hitchcock, M. D., Oakland; Ellis Jones, M. D., Los Angeles.*

Of all fractures the most crippling is that of the intracapsular portion of the neck of the femur. The particularly bad results are because of certain principles, three in number, peculiar to this fracture, which are factors against obtaining good union:

1. The fracture is intracapsular.
2. By the closed method it is often difficult to set and to hold.
3. The blood supply is peculiar.

Let us consider each of these in order:

Because the fracture is intracapsular, the fracture line is not backed up by muscle or other tissue and, therefore, can never acquire an external callus. All union must come from the endosteum. In this respect it is comparable to fractures of the head of the radius, or of the scaphoid in the wrist.

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* Read before the San Francisco County Medical Society September 19, 1933.

WHY CLOSED METHOD IS SOMETIMES INAPPLICABLE

A fair percentage cannot be accurately set by the closed methods for the following reasons: The capital fragment, if short, may rotate in its slippery socket, so that it is cocked edge-on, as shown by the laterovertical x-ray view, and is beyond control. Comminuted or oblique fractures cannot be accurately set by closed methods. In a large percentage of cases the anterior part of the capsule is found to be turned in across the proximal fragment, thus interfering with union. It can be removed only by the open method of treatment. The distal fragment falls away from the proximal one, due to the force of gravity when in the recumbent position, and also because of the strong pull of the glutaeus maximus and muscles of external rotation. This is especially evident when Buck's extension, or Hodgen's or Thomas' splints are used.

It is difficult to firmly immobilize this fracture. Abduction is our only conservative method, but even with this the patient may be obese and will always shrink when in the plaster spica, so that some movement at the fracture is inevitable.

SOME ANATOMIC RELATIONSHIPS

The blood supply reaches the head of the femur through the ligamentum teres, the capsule and the neck. The periosteum of the neck is practically negligible. There are usually many small foramina scattered over the superior and anterior aspects of the proximal end of the neck of the femur for the capsular blood supply, but the remainder of the neck is usually free from foramina. In an intracapsular fracture the blood supply from the neck is cut off, and also much, or usually all, from the capsule depending on how much this is torn. The remaining supply from the ligamentum teres is usually insufficient to maintain nourishment of the head of the femur. Therefore, it has been found that in 55 per cent of intracapsular fractures there is some degree of necrosis of the head, as seen by the x-ray, ranging from mottling to complete necrosis, and that in one-quarter of the cases there is complete necrosis.

The changes in the bone taking place have been described by Santos and Phimister in 1930. As early as one and one-half months from the date of fracture, necrosis can be demonstrated by the x-ray, and at the end of the third month it shows plainly.

Following a fracture the lime constituent diminishes in the innominate bone and upper part of the femur, but as the blood supply in the head is deficient the lime within the head cannot be carried away and, therefore, remains there. A dead head shows by x-ray as normal bright white in contrast to the osteoporosis in the bone around it.

Blood vessels in the lagimentum teres are usually of good size, even up to 1.3 millimeters in diameter, but as found by Chandler in 10 per cent of these ligaments the vessels were undersized. Age was apparently not an important factor. In this 10 per cent of ligaments, and in those cases where the ligament has been torn or the vessels within it thrombosed due to the trauma, necrosis of the head must be expected. Even in some cases of dislocation of the head of the femur without fracture this necrosis has resulted, and in some instances where the capsule and the ligamentum teres have been cut from the femoral heads of dogs, these heads have later collapsed, showing that the circulation from the neck alone may be inadequate and that the circulation from the ligamentum teres is important.

REPAIR AFTER NECROSIS OF HEAD

The necrosis in the head may be total or confined to the part not in the vicinity of the ligamentum teres. In the course of time osteoporosis occurs in the vicinity of the ligamentum teres and extends out into the head, so that one-half or two-thirds of the head is replaced by creeping substitution of granulation tissue, and later by renewed calcification. Santos found that a dead head usually means non-union. No head vitalized by the neck of the femur was found to be dead, and there were no instances of head necrosis in intratrochanteric fractures. Bryon Henry found that a dead head, if promptly fastened to the neck, in dogs, by a metal screw, will unite. He advised, however, an autogenous bone peg, as he found necrosis around his metal screws.

In many cases a much necrosed head which has united has later collapsed after an interval of from eight months to two years. It seems probable that Perthes' disease, in which there is a slipping of the epiphysis, is similarly dependent on the lessened blood supply so caused.

When the femoral neck is uniting a new blood supply advances into the head just as one does through the ligamentum teres. This can readily be seen in heads that have been fastened to the neck by an autogenous peg, as due to vascularization the peg enlarges and lines of bony growth radiate from it. As the granulation tissue progresses through the marrow spaces, the cartilage of the head is undermined on its under surface. Wherever it receives weight-bearing the remaining thin layer of cartilage falls into these spaces, thus giving much irregularity to the curved contour of the head, and in the severer cases resulting in much actual erosion of the cartilage. Later the cartilage grows out from the periphery until it again spreads over the head. Also in time and under the stimulus of function, the head becomes recalcified throughout the granulated area.

ABSORPTION OF NECK

Between the head and neck is the epiphyseal plate which apparently acts as a barrier to blood supply from the ligamentum teres. Therefore, the part of the neck still adhering to the head is usually soon absorbed. In fact, the whole segment of neck from the head to the trochanters in ununited fractures shows considerable or even complete absorption, resulting in an average shortening of the neck of three centimeters.

TWO MAIN REQUIREMENTS

Now when we consider the above three factors which are against obtaining good union, it is readily seen that there are two main requirements which should be fulfilled in treating intracapsular fractures of the neck of the femur. The first is to set the bone ends accurately together and without intervening capsule, and the second is to establish and maintain firm immobile approximation between the fragments. If there is movement between the fragments, the small blood vessels and the osteoblasts which are attempting to bridge the gap will be continually ruptured; pseudarthrosis will result and the head will not receive the benefit of new blood supply from the distal part of the neck.

In this second requirement the word firm is used so that the neck will push against the head. This pushing constitutes functional treatment, and is found to be the greatest stimulus to revascularizing the head. Bones under tension atrophy, but under compression hypertrophy, as their real function is to withstand compression.

COMMENTS ON SOME OF THE CONSERVATIVE METHODS OF TREATMENT

Let us now review the conservative methods of treating intracapsular fractures of the femoral neck and consider how they fulfill the above requirements for union.

In the use of Buck's extension, Hodgen's and Thomas' splints and the Ruth Maxwell method crippling is expected. Non-union, fibrous union, coxa valga and collapsed head much too frequently result. In the words of Whitman—"These methods deny the patient the chance for union."

Impaction, however, which means partial fracture without separation, favors union even in spite of these methods, as blood supply from the neck can be reëstablished.

Examples of statistics giving percentage of union where the Whitman abduction method has not been used range as follows:

Charity Hospital of Berlin—136 cases—6 per cent union.

Katzenstein of Berlin—collection of 169 cases—11.6 per cent union.

British committee on fractures of the femoral neck—23 per cent union and only 13.8 per cent above age of 60. The average percentage of success before the abduction treatment was used was less than 20. The mortality was 20 per cent, and of those above 60 from 40 to 50 per cent.

The use of the Whitman's abduction method greatly improved the results, so that compiling an average from the many who have reported their results in patients that lived 70 per cent of union occurred when the age was below 60 and 55 per cent when above.

The Whitman Method.—The Whitman method entails the use of the long spica of plaster of Paris, and many believe that this in the aged leads to hypostatic pneumonia and death. The reverse, however, is true, as it has been found that there have been fewer deaths (20 per cent) from treatment by this method than from treatment by the Buck's extension, Hodgen's or Thomas' splints, or what might be called the perpetual jiggle method with its constant pain and consequent increased reflex atrophy.

I have strong convictions on this point, as I personally have been treated by both methods. The double spica relieves practically all pain and allows much more exercise and turning than when a patient is attached to a traction apparatus.

Two precautions, however, should be taken. One is to reinforce the plaster of Paris over the hips and pubis so that the cast can be entirely open over the abdomen for respiration. Otherwise, each breath will be slightly curtailed and by accumulation will result in much respiratory embarrassment and hypostasis. The other precaution is to guard against dilation of the stomach. The esophageal opening of the stomach is posterior, and when the patient is on his back is inferior. Gas gradually accumulating in the stomach collects anteriorly and, therefore, is away from the esophageal opening and cannot be belched. If the patient is strong enough he may, on the second or third day, suddenly vomit gas, liquid and all, or he may pass through the symptoms of dilated stomach, as so frequently happens in plaster jackets or spicas; or when, even after a laparotomy, a patient is kept lying on his back. The remedy is to roll the patient over three times a day an hour after each meal, so that the accumulating gas can be belched.

Other conservative treatments recently introduced are those of Carl Jones and Anderson, each using the same principle of traction by countertraction on the sound leg, but because of the traction and mobility neither fulfilling the two above requirements.

Granting that the Whitman abduction is the best conservative method to date, failure is inevitable in 30 per cent in those under sixty years, and 45 per cent in those above, due to dead head from deficient blood supply through the ligamentum teres, presence of the capsule in between the fragments, and inability to set and immobilize the fracture. Accurate, firm approximation of the fragments by open operation obviates these faults. No conservative method fulfills the two main requirements, namely, to set the bone ends accurately together and without intervening capsule, and to establish and maintain firm immobile approximation. These can only be done by open operation. Then even if the head is dead or anemic, vascularity will come from the distal fragment and particularly so if with the help of an autogenous graft.

THE TREND IN TREATMENT

Treatment of this fracture has been undergoing an evolution. The abduction method increased the percentage of successes from twenty to sixty. Then, as the limitations of the Whitman method were realized, there came in 1930 an enlightening understanding of the pathological process resulting from lessened blood supply in the capital fragment. The next development in 1932 by Leonard and George, and Clayton Johnson of the technique of obtaining a laterovertical x-ray view of the femoral neck showed that many fractures which appeared to be well set by conservative methods were in reality not so. At present the trend is logically toward primary operation. By primary operation the patient, in 30 to 45 per cent of cases, is spared the crippling from degeneration of the femoral head and the loss of the neck. Also, instead of first suffering the long confinement in plaster, with its attendant stiffening of the knee and general bodily stagnation, resulting from a three months' trial of conservative treatment, and then having to endure a similar long confinement in plaster all over again following operation, only one such ordeal is necessary.

SEMI-OPERATIVE AND OPERATIVE METHODS

The following semi-operative and operative methods are in this country now being used:

Some surgeons desiring firmer fixation are content to gamble on the presence or absence of interposed capsule. This cannot be disclosed by x-ray. In those fractures in which the fluoroscope discloses an accurate set, they fasten the fragments together by rather blindly inserting, from the lateral surface, either several Kirschner wires or a Smith-Peterson nail. Thomas King uses a Kirschner wire as a guide, over which he slides a perforated Smith-Peterson flanged nail, and hammers this into the head. Others with more direct action routinely expose the femoral neck through an anterior incision, remove interposed capsule if present, accurately set the fracture and apply a plaster spica in abduction. A small bone inlay across the fracture line, to prevent rotation and encourage union, may be added.

Smith-Peterson, through one rather extensive incision, exposes the trochanter, neck and head, and drives in his flanged nail. He reports 75 per cent of successes in twenty-four cases. In using this nail, which holds firmly and gives a minimum of pressure necrosis, the tendency is to allow early movement. Walking in a short spica in abduction is recommended as early as in five weeks. Perhaps this puts too great a strain on heads which are destined to go through a stage of partial necrosis.

There is much of merit in the use of the flanged nail, with later removal. It fulfills the above-mentioned requirements, but the main objection is the use of a foreign body. Metal discourages bone growth; autogenous bone grafts encourage it. Beef bone and ivory pegs, which are irritating foreign bodies, have not the other merits of the flanged nail and cannot be advised.

The Albee autogenous bone peg has much in its favor as a primary procedure, as it fulfills all the requirements detailed above. The bone fragments are held firmly in place. The autogenous bone peg brings blood supply from the neck to the head, and the peg crossing the fracture line is alive and encourages the formation of new bone, as is beautifully shown by the x-ray. Pegs can be demonstrated many years afterward and become integral with the bone.

Ellis Jones described an ingenious simple method of autogenous bone peg, in which the dowel is taken from the adjoining part of the shaft of the femur; the trochanter being too soft, and all is done through one lateral incision. A half-inch notch, three-quarters of an inch deep, is also made in the trochanter. The gluteus medius is cut from the trochanter and slit high, and the joint capsule is slit longitudinally. By these means Jones claims to have sufficient vision to adequately attend to the fractured ends and interposed capsule.

As an alternative for better exposure, the trochanter may be cross-cut and turned upward. Finger palpation along the posterior surface of the neck, as described by Bozan, may aid.

The technical difficulty of the Albee operation, though not too great, prevents its wide adoption except by a few, but the operation, even though of great magnitude, is well justified, as a primary procedure, if the patient is a good surgical risk.

Surgeons everywhere, with few exceptions, complain of uncertainty in correctly directing the peg, and frequently the x-ray shows that the peg is not where it should be, or has even missed the neck or head entirely. This also applies to the Kirschner wire and flanged nail. To overcome this failing I have developed an instrument * by which the peg, wire or nail can readily be placed with certainty through the center of the femoral neck and head. It contains two notches like the sights of a gun into which the drill is laid and is aimed by contacting two arms of the instrument under direct vision with the front of the femoral neck and the lateral surface of the shaft of the bone. The sights are also perforated for using a Kirschner wire. This wire can then serve, if desired, to direct a perforated flanged nail which can be made to pass down the Kirschner wire after the method of Thomas King. The instrument will also accurately direct the Kirschner wire or flanged nail without exposing the neck of the femur. For this purpose only a small lateral incision is used.

In using the Albee bone peg there is a tendency (though less in fresh fractures) for the outer fragment to slip outward along the peg, and so to fall away from the proximal fragment, thus jeopardizing both bony union and the necessary blood supply from the neck. This may be somewhat prevented by placing a sling around under the buttocks, supported by an overhanging upright, so as to press the trochanters toward each other while the plaster is being applied. To insure a very firm approximation between the fragments, however, I have in the last six cases cross-pegged the peg through both the capital and distal fragments, with two autogenous match-size pegs taken from the tibia. The joining is then so firm that the leg can be moved about freely without fear of displacement, and vascularity from the distal part of the neck is assured.

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* Fracture of the Neck of the Femur—A Sight for Accurately Directing the Dowel Peg, Surg. Gynec. and Obst., 57:685 (Nov.), 1933.

INDICATIONS FOR ROUTINE PRIMARY OPERATION

The tremendous percentage of failures from conservative methods surely justifies routine primary operation when possible. If the patient is a good surgical risk and operative facilities are the best, the autogenous bone peg operation seems to be the choice. If this is not practicable, or the patient is not quite such a good risk, a good routine is open reduction with removal of interposed capsule, and with or without an inlay key graft. The setting should be made firm under visual guidance and a spica of plaster applied in a position combined with abduction that insures firm stability of contact. This might be called the open abduction method. Here the use of the flanged nail (metal though it is) offers a means at our disposal of firm fixation, particularly needed when the fracture from obliquity will not hold a set. If the patient is a poor risk and the fracture can be well set by the Whitman, Leadbetter, or other maneuvers, firmer fixation can be gained by multiple Kirschner wires placed at different angles through the neck or by the flanged nail. In either case the wire or nail is inserted blindly and guided by the method referred to above.

WHEN WEIGHT-BEARING IS PERMITTED

A word should be said of the time that should elapse before weight bearing is permitted. From the recent studies, we know that, following at least 55 per cent of intracapsular fractures, the capital fragment must first undergo partial or complete necrosis and then a slow substitution by granulation. This under the stimulus of function at first protected from weight-bearing is eventually followed by calcification. This process in nonambulatory treatment requires, on an average, six months; and if full weight bearing is allowed too soon there will be pain in Scarpa's triangle and coxa vara, or faulty union will occur. In three and one-half months the patient should be able to do painless straight-leg raising, both when lying on the back and on the side. The latter is a good sign of union. After that, freedom in bed can be allowed for a month and a half, and then a month on crutches, but without weight-bearing until a total of six months have elapsed. When weight bearing is painless, and by x-ray structural lines of pressure are seen crossing the fracture line, the bone is ready for weight-bearing. Even six to twelve months may be necessary if the x-ray demonstrates that the head has been dead.

Sutter and Powell Streets.

DISCUSSION

S. L. Haas, M. D. (450 Sutter Street, San Francisco).—Doctor Bunnell has concisely presented an interesting review of the anatomical, pathological, physiological, and mechanical principles involved in treatment and failure of union in intracapsular fracture of the neck of the femur. As stated, the best results by conservative treatment were one failure in three up to sixty years, and almost one in two in the later decades.

In seeking to improve upon these results, various operative procedures have been advocated, from plain, simple nailing to complicated bone-graft operations. As pointed out by Doctor Bunnell, the inability to fix the distal fragment and get close apposition in certain positions, the interposition of capsule, the lack of adequate blood supply to the head, and the presence of a foreign body have all been detrimental to the success of the simple nail fixation. The larger flange nail of Smith-Petersen, although theoretically unsound, is practically very efficient; but the operative procedure is a bit too formidable. The use of a bonegraft is physiologically more sound but, unless a wide exposure is made, is less likely to be successful.

Johansson, in 1932, presented his method of making a small incision and using a guide for the Smith-Petersen pin, thereby simplifying the operation. It lacks, however, the important control of the head, which is one of the most important details in the Smith-Petersen method. The Johansson method is more adapted to the poor operative risks. Westcott, of Virginia, and King, of Australia, have independently presented similar methods. These methods may at times fail, because the guiding pin which appears to be in the head may be at one side. Bunnell's ingenious guide and method should help to obviate this mistake.

Our aim is to secure a method that is relatively simple, with a low mortality rate, a short period of bed treatment, more rapid union, and fewer cases of non-union. And from the recent report of O'Meary, Worcester City Hospital, it seems as though we are drifting toward that goal. His method of so-called blind nailing consists of first reducing the fracture, carefully checked by anteroposterior and lateral Roentgen grams.

Using the good femur as a standard, he determines the angle of inclination of neck, usually one hundred and thirty to one hundred and thirty-five degrees, and the length, which is from three to three and a half inches. An incision is made over the trochanter; and then, with a protractor guide for the angle, he drives a Smith-Petersen nail into the head of the femur. There was no mortality among his twelve patients; and, although a full observation period has not yet elapsed, the indications are for a high percentage of bony union. Let us hope that this method in the hands of others will prove to be as successful as O'Meary has reported, and that in the future we shall be able to present a more hopeful outlook to the unfortunate patient.

Gaenslen has recently reported on a somewhat similar method, while other investigators are using two or more pins or wires inserted at different angles.

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Harold H. Hitchcock, M. D. (1624 Franklin Street, Oakland).—I should like to congratulate Doctor Bunnell for the excellent sight which he has devised for accurately directing pins or pegs through the neck of the femur.

I am not yet ready to agree that all fractured hips should be treated by primary operation and bone peg. Leadbetter showed how to reduce accurately many hips that were formerly not reducible. His maneuver also helps to remove pieces of capsule from between the fragments.

I think that there is still a place for the closed method of treatment for intracapsular fractures of the neck of the femur. I shall be greatly interested in seeing statistics from a sufficiently large group of primarily operated cases to learn how much better than 70 per cent of healed cases will result. I should also be interested in the relative mortality with open operation and closed treatment.

I think that it is still too soon to properly evaluate the use of multiple pins, Smith-Petersen nail, and such procedures, which are simpler of execution than a bone-pegging operation.

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Ellis Jones, M. D. (201 Medical Office Building, Los Angeles).—Doctor Bunnell has perfected an extremely ingenious instrument as a sight for directing a dowel peg, a Kirschner wire, or a flanged nail. I have had no personal experience with this instrument, but its merits are obvious, since it eliminated so-called "blind pegging."

In April, 1932, I described a method for operative reduction of fractures of the femoral neck under the title of "Trochanteric Transplantation in the Treatment of Fractures of the Neck of the Femur." The hip joint is exposed by a straight Langenbeck incision, extending from the iliac crest downward over the trochanter laterally along the shaft of the femur to a point three inches below the trochanter. The gluteus medius muscle is incised longitudinally, and the capsule is split in its entire length along the superior border. A trochanteric bone graft three and one-half inches in length, and one-half inch in width, is removed from the external lateral surface of the femur. This graft includes the tip of the trochanter and three inches of the lateral mid-portion of the femur. The removal of the bone graft, and the splitting of the capsule superiorly, afford an excellent view of the femoral head and the entire femoral neck. Retraction of the capsule is accomplished best by the use of a MacAusland bone-skid in front and behind the neck. There is a weak point in the cortical bone of the trochanteric end of the bone graft, approximately one inch from the tip of the trochanter. I have, therefore, been discarding the tip of the trochanter and utilizing the remaining three inches of the femoral graft which is generously supplied with a firm cortex and highly vascularized spongy bone and endosteum. Following reduction of the fracture by manipulation, the bone graft is introduced under the eye through a central drill hole. The tip of the trochanter, previously removed, is replaced in its original bed. I particularly emphasize the necessity of removing the mesial portion of the tip of the trochanter in order to obtain an unobstructed view along the entire neck of the femur through this lateral approach. This method eliminates blind pegging.

The Whitman method continues in my hands to be the method of choice in the treatment of intracapsular fractures of the neck of the femur. I have had no experience, whatever, with the use of nails, wires, or other foreign material. Bone transplantation seems to have completely justified itself in the treatment of fractures in other parts of the skeleton, and the disadvantages of foreign material I consider regarded as ancient history. We should add to and not subtract from the reparative ability of a fracture; and this, I believe, a bone graft does, provided it is adequately utilized.

I find it extremely difficult to decide which cases of intracapsular fracture justify routine primary operation. I am inclined to attempt a Whitman reduction in all patients, checking the reduction by anteroposterior and lateral x-rays, and intervening by open operation if for any reason I fail to maintain the reduction, or if x-ray signs of necrosis of the femoral head appear. The advantages of open operation by the trochanteric bone graft method may be summarized as follows:

1. Early and accurate replacement of displaced fragments with assurance that no interposition of tissue exists.

2. Bridging of the fracture line with an autogenous bone graft, providing firm internal fixation, the graft also acting as a calcium source for the healing granulation tissue.

3. Early reëstablishment of blood supply between the head and neck of the femur, in an area where blood supply is minimal.

I heartily endorse Doctor Bunnell's dictum that from six to twelve months of postoperative fixation and guarded weight-bearing may be necessary before firm bony union can be demonstrated.

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Doctor Bunnell (Closing).—Treatment of this fracture is still in the stage of development; therefore, the choice of method cannot as yet be standardized. We now know that the problem comprises both fixation of fragments and local blood supply. Many new procedures are being tried, but only those will last that conform with the basic principles involved. Our method must be simple and safe, and must set, hold and nourish.

The use of foreign bodies simplifies fixation, but is objectionable physiologically. Perfect fixation, preferably by autogenous bone graft, minimizes the gamble of the fate of the head and neck.

Ellis Jones's method of graft has in its favor simplicity. The strength and fit of the graft, and the vision afforded, will be deciding factors in evaluating it with the Albee method.

Grafts are justified by the seriousness of the prognosis, but efforts should be directed toward simplifying the procedure. In poor risks we must resort to more conservative, less ideal methods, and accept a greater percentage of failures.

THE MENTALLY DEFECTIVE CHILD

By Thomas B. Cunnane, M. D.
Los Angeles

Discussion *by Glenn E. Myers, M.D., Compton; William M. Happ, M.D., Los Angeles; Edward R. Cox, M.D., Los Angeles.*

In writing of my impressions gained in the study of the mentally defective child, I am guided by the desire to stimulate the interest of the average physician. I have been fortunate in having the opportunity to observe and treat this type of child in a private school during the last twelve years.

TYPES OF DEFECTIVES

In order to write more clearly, I will attempt to correlate the more common types of defectives. Strictly speaking, the term "idiocy" is used to imply the lowest type of mental impairment. However, the term is also used to include any type of mental feebleness due to disease or defect of the brain, congenital or acquired. The variations in degree are indicated by the expressions:

Idiocy; imbecility; feeble-mindedness (morons); backward children or defects.

The variations are: Hydrocephalic (lues); microcephalic; paralytic (poliomyelitis, spastic paraplegia); epileptic; traumatic; meningitic; cretin; mongoloid; sensorial (congenital or early loss of two such senses as sight or hearing); pyschological defect; amaurotic (family idiocy. Very rare. Baby is born normal, but at the age of four to ten months becomes weak and stupid, and blindness occurs due to optic atrophy); idiot savant (precocious in one line).

Briefly, the common causes of idiocy are:

Heredity

1. Familial tendency. Like begets like. Certain types of idiocy have been traced through many generations.
2. Syphilis, alcoholism, tuberculosis.
3. Intermarriage.
4. Disproportion in ages or senility.

Acquired

1. Instrumental delivery, or long delivery with pressure.
    Asphyxia.
    Cerebral hemorrhage of new-born.
2. Meningitis.
3. Poliomyelitis.
4. Fevers.
5. Trauma.

It is impossible to determine the number of mentally defective children in the State of California, as there is not a well-developed plan for central registration. In Massachusetts a plan for the central registration of all mental defectives was developed in 1922. Up to 1930, 28,754 cases were registered, or 749 per every 100,000 population.

CLINICAL MATERIAL FOR THIS STUDY

The school referred to in this paper has had an average of forty-five of these children attending for the past twelve years. The highest attendance has been seventy-five. The majority of the children room and live in the school; there are some day pupils. Their actual ages range from five to fifteen years. Their mental ages range from 0 to fifteen years. We have attempted to arrange them in the classrooms according to their mental abilities and also their sizes. Thus, idiots with a mental age of 0 to two years; imbeciles, three to seven years; morons, seven to twelve years; and the psychological defect or behavior problem.

The purpose of the school is primarily to instil habit in the life of the child. Many of the more inferior types, when they first arrived in the school, have lacked training even in the fundamental habits, such as going to the toilet. They may be fourteen years old and still be wearing diapers. Constant repetition of an act finally impresses the most inferior types. Many at first have no idea of manners at the table, not knowing how to use any implement other than their fingers. Consequently, they are very slovenly and dirty. This problem, surprisingly, is easily settled. The children all eat at four large tables in one large room. They are trained primarily to keep their hands on their laps until after "grace" is said, and then they use their spoon or knife or fork, according to their abilities; and the children that are better equipped mentally are given the responsibility of teaching the other children. There is always a competent instructress at the head of the table. Even the most inferior types will mimic, if an action is repeated constantly within their range of observation.

Music is a frequent accompaniment in the teaching of the children. Their attention is almost always held by music, and it is surprising how quickly many of them learn to hum a tune even though they are mutes. They also readily learn simple dance steps; and on various holidays they are taught to participate in little folklore plays, and it would be difficult for the casual observer to say that they were mentally defective.

The teachers for this type of child must have the greatest patience, and they must be extremely clever in presenting their subject, as these children lack concentrative ability proportionate to their degree of mentality.

INCIDENCE OF INFECTIONS

The incidence of infections is supposed to be higher in this type of child. The mongoloids especially have very large tonsils and adenoids. Many of the children show various signs of food deficiencies, *i. e.,* ricketic bosses, rosary, red eyelids, dry, scaly skin, and protuberant abdomen. Respiratory infections are common. Extreme dental decay is frequently seen. We impress on the parents primarily the importance of removing their tonsils and adenoids, and having their teeth repaired. Cod-liver oil with viosterol is routine with most of the children; also sun baths and rest for the more poorly nourished. They are furnished a well-mixed, easily digestible diet with plenty of fruit, milk and eggs, and can eat all they wish three times a day, with milk in the afternoon. Any child that develops a cold is kept in bed and isolated. All children are routinely protected against diphtheria and smallpox. An ample bowel movement is insisted upon each day. Mineral and castor oil is used freely. Obstipation in the newly admitted pupil is common. One child, admitted with a hemiplegia due to a birth injury, was suffering from four to eight epileptiform convulsions daily. He was found to be subject to the most severe type of obstipation, and when this was corrected the convulsions ceased and in the past year have not recurred. This same child could hardly walk when admitted, due to his one-sided paralysis. The heel and sole of the shoe on the affected side were raised, and this simple procedure has allowed him not only to walk, but to take care of himself in play with the other children.

Some of the more inferior types must be watched carefully to prevent them from eating gravel or any other foreign object that they can swallow.

MORTALITY

In the past twelve years we have had seven deaths. One from status epilepticus, three from cerebral type of poliomyelitis, one from a burn when the child turned scalding water on herself in the bath tub, and two from pneumonia. Measles, whooping-cough, and scarlet fever have been no more prevalent than in any group of normal children of the same number. The cerebral type of poliomyelitis was ushered in by a child that had had his tonsils removed; and on the fourth postoperative day he developed uncontrollable vomiting. Finally, there was paralysis of the muscles of deglutition and the respiratory muscles, and death. The other two cases occurred within two weeks following this case, and were very similar. The epileptic patient was in a state of convulsions for eighty hours prior to death and was not relieved by chloroform, sodium amytal, spinal puncture, nor magnesium sulphate. There have been two empyema cases in mongoloids that made an uneventful recovery with the closed type of drainage. There have been no acute abdominal surgical cases. Those children who go home over the weekend frequently come back with gastro-enteritis and colds.

I have found that the resistance of this type of child depends on his physical fitness and does not differ from that of any other child.

MONGOLOID TYPES

The mongoloid types have formed the largest single groups of defectives in the school. They are easily recognized by their round face, with the flat nasal bridge causing a slant and narrowing of the eyelids. Their hands and feet are pudgy and their abdomen is protuberant. There is a separation between their great and second toes. Their tongue and lips are thick, and they enunciate with difficulty. They are invariably happy and amiable, also obedient, and respond surprisingly to instruction. As they grow older, they gradually lose their stigmata; and if they reach the age of adults it is frequently impossible for anyone but a trained observer to distinguish them. In every mongoloid type that I have seen, the characteristic features may be found in some one member of the immediate family: mother or father, brothers or sisters. They seldom develop beyond the stage of a moron, although we have two cases from the school that have gone to college, and one was graduated from Stanford University. They have a better opportunity than the average moron, if they are of the higher type of mongoloid, because of their happy disposition. They resemble very closely the cretin, but the administration of thyroid does them no good, nor does the administration of any other gland preparation aid them. The congenital thymic babies also show many characteristics of the mongoloid, and it is possible that they would develop into a mongoloid if they lived and were not cured by the x-ray. These children are very susceptible to bronchial and head colds.

MORON TYPES

The morons are probably the hardest to deal with because, although they do not do well in school, they are frequently bright enough to make their parents believe that their instructor is showing prejudice. They generally appear normal, and the ordinary person does not realize their limitations. They frequently land in juvenile court because of the difficulty in finding a vocation and recreation of sufficient interest to hold their attention. They should be in a special school, as the community is not a safe place for their development. They are frequently wilful and untrained, subject to temper tantrums, and even dishonest. They learn to use these methods in competition with the normal child. The average mother of a moron is not fitted to train them, and they should truly be considered an institutional type. A definite plan for determination of this child-type and central registration, followed by occupational guidance, would be of great benefit.

SPASTIC PARAPLEGICS

The spastic paraplegics are a pitiable type, righteously receiving one's sympathy. They are easily recognized by their halting, incoördinate gait, as though they were going to fall any moment. We at times see them selling papers on the street, and the average person gives them credit for much less than they really possess mentally. They are often very sweet children, and it is easy to become attached to them on acquaintance. Mentally they are normal. The condition is generally hereditary, although it may be acquired due to cerebral injury at birth. The hereditary type has been traced through five generations, the individual affected showing marked similarity in all respects. The actual symptoms may not show themselves until the child is twelve or fourteen years old, and only then after an intercurrent infection such as measles. The symptoms, however, may be present from the time that the child attempts walking. Muscular hypertonus and increased reflexes are always noted; therefore the spastic gait due to leg rigidity. There are no sensory or sphincter difficulties. There is frequently a spasmodic condition of the muscles of the face and neck, and difficulty in speech. The columns of Gall and the direct cerebellar tracts have been found degenerated. Treatment is of no value.

TRUE EPILEPTICS

The true epileptic may be either very easy or very discouraging to treat. The convulsions frequently can be controlled by luminal or bromid combinations, but the prevention of the convulsions by dehydration or ketosis eventually produces a state of malnutrition and decreased resistance, and the child frequently succumbs to a contagious or respiratory infection. Continued use of sedatives gradually produces a mental fogginess. Epileptiform convulsions occur in some mentally deficient children solely from improper elimination. There is also a type due to calcium deficiency, and cured by the administration of parathyroid gland and calcium. Some of the hemiplegias and paraplegias have convulsions, the result of the cerebral hemorrhage they suffered at birth. Then there is the congenital, luetic type of epilepsy frequently associated with childhood paresis.

OTHER TYPES

The obese child with the associated hypogonadism, pituitary derangement and mental stupidity must be differentiated from the cretin. This type of child has the broad hips and narrow shoulders, girdle adiposity and excessive mammary development. It is common to see a certain degree of this type in mentally normal boys around puberty. The mentally subnormal child may be obese because of a voracious appetite, and in the school he will lose weight on the ordinary diet sufficient for a child of his age. The pituitary type reacts satisfactorily to thyroid, diet, and antuitrin.

We have had no cases of diabetes in any of the children of this school, nor have we been bothered with allergic manifestations.

The true idiot may be either lethargic or of a highly nervous type. The latter may be very difficult to control, as physically he may be very strong and must be watched carefully to prevent accidental injury to the other children. Teaching both the habit of cleanliness, body care and manners at the table is an achievement with this type of child. The low imbecile type of idiot may be taught to do odd chores around the house. We castrate all of these children when permission is obtainable.

The so-called psychological defect has been the subject for many books and treatises. They are the "behavior problems," and include those that are defective in morals or character. The cause for this type of defect may often be traced to improper parental influence, catering to the child's whims, attempting to completely accept their burdens, misdirection, and overindulgence. The natural independence and ability of the child is stunted. They develop fits of anger and ulterior motives in an attempt to get away from their parental oppressors. As they grow worse in their development, the parents become more impossible, continuously harping of the child's defects in front of the child and to all who will listen. Possibly it is the parents of this type of child who should be in a school.

Then there is the "behavior problem," the direct result of his environment. This child may be mentally above normal, possibly the head of a gang of boys. They become more and more bold with their pranks, until they are beyond the law. This type of child is not necessarily from the poorer districts. Especially in the smaller communities all the boys may be included if they are not directed in their recreation. The value of community centers, Boy Scout organizations, and properly supervised outdoor activities in the public schools cannot be overemphasized.

IN CONCLUSION

In conclusion, I wish to state that I have purposely tried not to be too scientific nor to deal in statistics. My purpose in writing this paper is to present the problem of these less fortunate children in such a way that the general physician may give more attention to them, so that he may aid in directing the unfortunate parents. There is no more distressing problem than to be the parent of a mentally defective child. There should be a more definite plan developed for segregating and orientating these children according to their mental abilities.

1052 West Sixth Street.

DISCUSSION

Glenn E. Myers, M.D. (Compton Sanitarium, Compton).—Children defective in intelligence may be roughly divided into two classes of trainability: (*a*) those that are not trainable, and (*b*) those that are trainable.

Permanent residence in an institution that is essentially custodial in character is usually necessary for the first-mentioned group. The best that can generally be accomplished with these children is to effect some degree of habit training, which will make their care easier. Even in this group one sees personality reactions that are characteristic of the individual child, but little can be done to improve such undesirable personality reactions. It is well to attempt to remedy physical factors that may contribute unfavorably to personality reactions. Constipation, for example, is of importance in this respect.

The second group, *i. e.,* those children that are trainable, is much broader than the first-mentioned group. In it one deals with wide variance of intelligence defect and mental retardation, and with complex personality reactions. The higher the degree of intelligence and the more stable and otherwise normal the habitual personality reactions, the better trainable is the subject. Such traits as habitually poor attention, interest and application, may present great difficulty in the training of a child that perhaps has but a slight degree of intelligence defect. The stability of personality reactions has a distinct ratio with the degree of good citizenship effected. One needs not only determine the intelligence quotient to predict the capacity of the child in its adaptabilities to the world, but must carefully analyze its personality reactions and endeavor to eliminate qualities that prevent the child from using its intelligence to full capacity.

Children deficient in intelligence generally fail to develop their full potential capacities in good citizenship if they are made to compete with children of normal intelligence. Their development is generally much better if they are grouped according to their mental abilities. This is generally best done in special classes or schools. In such situation there are fewer failures in competition that discourage the child and stultify its progress, and it may find as much stimulus from success in competing in its special class as do the normal children in their own classes.

This fact was long ago recognized, and led to the excellent system of examining clinics provided in Massachusetts. This system has grown from the initial clinic in 1914 to fifteen traveling clinics at the present time, for examinations and recommendations in the case of retarded and defective children. These clinics are governed by the combined State departments of education and mental disease. The Division of Mental Deficiency of the Massachusetts State Department of Mental Diseases, under the direction of Neil A. Dayton, M. D., has considerably changed the general aspect of the truly distressing problems that are incident to intelligence defect. From 1919 it has been compulsory for the school departments of Massachusetts to refer to these clinics all children three years or more retarded in their classes, and from 1931, children of lesser retardation have been so referred, thus appreciably widening the usefulness of the clinics. Special classes and schools are liberally provided, and good work is done toward training the mentally defective and retarded children to be good citizens within the limits of their intellectual capacities. Such work necessarily entails good personality training as otherwise results would be much less satisfactory.

Doctor Cunnane's effort, through his paper, to stimulate greater interest in California in the better management of the problems of mental deficiency is commendable. It is hoped that it will assist in promulgating the fact that something really can be done for these unfortunates.

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William M. Happ, M. D. (925 Pacific Mutual Building, Los Angeles).—The proper management of mentally defective children naturally depends upon the degree of retardation. In general, one recommends custodial care for the idiots (mental age of 0 to 3 years), and constructive, institutional direction for those whose intelligence is sufficient to justify such an outlay. This group includes the imbeciles (mental age 3 to 7 years), and the morons. These children can be taught the essentials of a useful trade, and may show surprising aptitude at manual effort. The group most worthy of effort is the moron class.

Unfortunately, sentimental feeling on the part of the parents often offers a stumbling-block to successful institutional education and care. Too often these handicapped children are left at home, or the parents become very attached to them and do not want to "put them away." The result is usually unsatisfactory from the standpoint of the child, the parents, and other children in the family. In an institution or school, as Doctor Cunnane has so well brought out, the children are in company with mentally equal individuals. They are handled by teachers who understand them, and they are usually quite happy. A school, as Doctor Cunnane has described, therefore, fills a very useful and important place in the care of mentally handicapped children.

Regarding the group known as "spastics," one must remember that these children may not necessarily show mental retardation. Those with normal or moderately subnormal mentality may be taught, by proper orthopedic training, to lead useful lives.

The pediatrician is confronted frequently with the problem of the mentally handicapped child. As he is looked upon as the family adviser, he must face the problem individually and squarely, and will often be gratified with the result.

Edward R. Cox, M. D. (1052 West Sixth Street, Los Angeles).—I wish to thank Doctor Cunnane for the privilege of discussing this interesting view of his experiences with subnormal children.

Not everyone who has a defective child can afford the care and training supplied by a special school, and charity institutions are full to overflowing. Public school systems in the larger cities usually have special day training schools called "development schools." These, also, are generally full to overflowing. So it is shockingly true that "there is no more distressing a problem than to be the parent of a mentally defective child."

Aside from the obviously mentally defective child there is a large group which may be called a borderline type—the high-grade moron. If anything, this classification is more of a problem. In the home, too, much is expected of him. He is truly misunderstood. Parents sadly shake their heads over his shortcomings or severely chastise his lapses. In school he reaches a stage of understanding just sufficient to be resentful of the demands made upon him. His obstinacy and resentment smoulder, for few higher-type defectives are good natured. Among his playmates he becomes a good follower, and this often leads him, by way of some overt act, to the juvenile court. Here the records sadly relate over and over a sordid list of his escapades.

Many studies have been made on mentally defective children. Nearly all of them conclude that heredity plays a dominant part in its production. Movements are on foot advocating sterilization of defectives on this account. But since such movements depend upon the enlightenment of a prejudiced and generally an unenlightened electorate, this movement must necessarily be delayed. In the meantime whatever the family physician may sympathetically supply in the way of advice and counsel may make the difference between happiness and tragedy among those entrusted to his care.

THE LURE OF MEDICAL HISTORY*

PHARMACIES AND PRESCRIPTIONS OF THE SIXTEENTH CENTURY

By Felix Cunha, M. D.
San Francisco

The old adage, "nothing new under the sun," keeps cropping up so frequently in actual experience that one has to give it credit for more than mere repeated coincidence. This is quite true with reference to the pharmacy or apothecary of the sixteenth century in comparison with our present-day pharmacy, if we exclude those merchandising corners where lunch counters, radios, electric toasters and what not are sold in a so misnamed drug store. But if we allude to the 100 per cent modern prescription pharmacy, a casual glance will show that it differs so little from its parent of three centuries ago that the difference is negligible.

A description of the leading pharmacy of Prague in the early part of the sixteenth century, which was very similar to the pharmacies of other large European cities during this particular time—except, perhaps, as to size and amount of stock on hand—demonstrates that even the location of certain subdivisions of the establishment are almost exactly those of today. Whether this is due to merely blind following of custom by the pharmaceutical profession at large is difficult to say, or whether an apprentice, when he became a pharmacist, kept things in exactly the same place as the teacher who taught him, after he had acquired a place of his own, and thus started an endless chain cannot be more than but guessed. Possibly also because in each pharmacy there was displayed very prominently where the junior pharmacists, apprentices, clerks, etc., could not help but be constantly reminded, a Latin motto, whose English translation was, "Place everything in order, keep each thing in order, and set all things in their proper place."

THE DIVISION OF THE APOTHECARY SHOP

The pharmacy of the sixteenth century consisted usually of a front and back shop, even as today. The front shop had one or more display windows on one side, while on the other sides were shelves, or row upon row of drawers of different depths and sizes, reaching to the ceiling, broken on some one side by a counter.

The back shop contained huge tables on which were large jugs of heavy oils and great barrels or hogsheads of crude herbs in the process of maceration. Today, of course, the drug manufacturer has taken over this particular phase of pharmacy with a claim of lessened production cost because of wholesale mass quantity. Possibly from indifference and laziness on the part of the pharmacist as an individual, the present-day drug manufacturer may attribute the birth of his business, usually it comes under the heading of progress and need.

Across one end of this back room there would be a counter-table, or compounding bench, at which the actual work of rolling pills, mixing powders, liquids, and salves was carried on, and the ingenious implements necessary for these procedures were found here. A pair of scales, the most important implement of all to a pharmacy, was within immediate reach. In this particular time scales were usually hung from the ceiling, and were placed somewhat above the counter.

On shelves above, or on the counter, were the various graduates, mortars and pestles, measuring jars requisite for compounding, plus the bottles of various shapes and sizes used as containers.

THE PRESCRIPTION BOTTLES

The subject of prescription bottles of olden times is quite interesting. I recall seeing in 1929 in the Dorotheum in Vienna (the Government-owned and controlled pawn shop), a collection of approximately four hundred bottles used in pharmacies during the fourteenth, fifteenth and sixteenth centuries, as medicine containers. There was no regularity of size, shape or content; standardization was to come with modern improvement later, but it was as fine a collection of Bohemian, Italian and Greek glass as one would ever see anywhere. All were of hand-poured and hand-moulded glass, no austere rigid straight lines, no pointed corners, all was well rounded, and done by hand. There was no conformity to a type; each was different, no two were alike,

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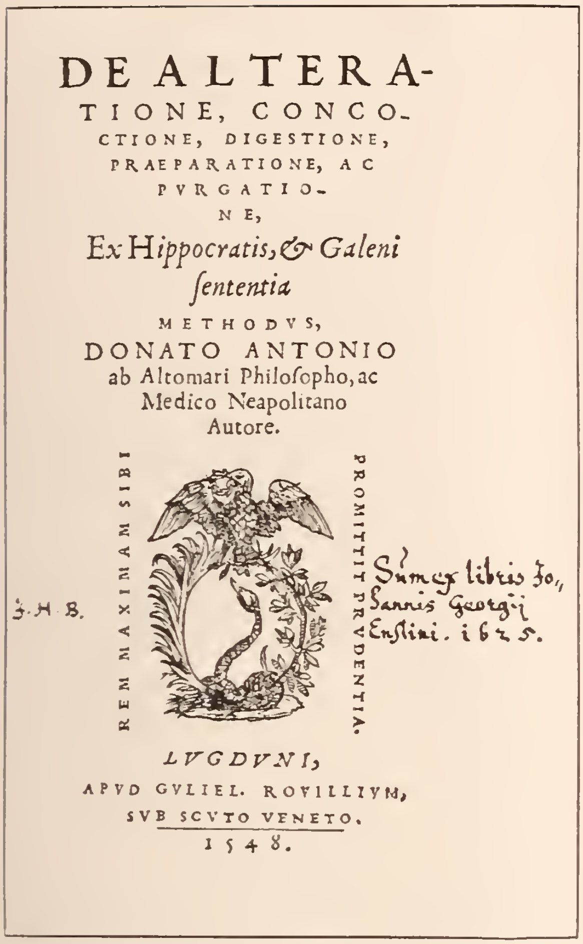
*A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department, and its page number will be found on the front cover.



DE ALTERA-
TIONE, CONCO-
CTIONE, DIGESTIONE,
PRAEPARATIONE, AC
PVRGATIO-
NE,
Ex Hippocratis, & Galeni
ſententia
METHODVS,
DONATO ANTONIO
ab Altomari Philoſopho, ac
Medico Neapolitano
Autore.

REM MAXIMAM SIBI
PROMITTIT PRVDENTIA.

J. H. B.

Sumex libris Jo-
hannis Georgii
Enslini. 1625.

LVGDVNI,
APVD GVLIEL. ROVILLIVM,
SVB SCVTO VENETO.
1548.

Fig. 1.—Title page of one of the commonly used materia medicas of the time.*

neither did they run to uniformity in content. To consider an example, a two-ounce container would hold fourteen drams or eighteen drams. Whether the recipient of a fourteen-dram vial paid the equivalent of a two-ounce mixture, and was thus cheated, or whether the bottle was so made without any ulterior pecuniary motive in view, can again be only guessed at.

DISPLAY OF THE PHARMACEUTICAL DIPLOMAS

One of the most important and most conspicuous features of the pharmacy was the prominent display of the diplomas of the proprietor and his qualified assistant, usually one. These were always most ornate and covered with a great many gold seals and wax seals, with many ribbons of bright color attached. Then there was his grant from the king and the privilege of the civil authorities for him to do business, "cum privilegio regis." In 1934 is not the sheepskin with pharmaceutic degree framed and posted in a prominent place in every drug store, and is not the certificate of the State Board of Pharmacy "with the privilege of the state" also displayed, plus the small piece of paper denoting that the proper tax has been paid to the civil authorities in order that the doors may be open for business?

REGULAR AND BIZARRE REMEDIES

The drawers and shelves were well stocked, and a stock sheet of such a pharmacy named such items as: alum, salt, sulphur, arsenic, spermacetic, saltpeter, vitriol, sal ammoniac, antimony, turpentine, wax, etc.

Among some of the more bizarre remedies peculiar to the times were crabs' eyes, human skull, asses' hoof, dried toads, cast-off skins of snakes, etc. This latter was supposed to be a particularly efficacious remedy for dropsy; of course, the modern individual smiles at these remedies and thinks what abysmal ignorance must have existed in this dark, distant past. But perfectly well educated and supposedly intelligent people in the upper strata of society patronize the Oriental dispensers of concoctions just as weird in all our large cities today and a walk through any Chinatown in a large city will give a glimpse of show windows full of dried lizards, pickled sea horses, etc. Also these ancients were open and above board, they called things by their proper names. There was no attempt to disguise anything obnoxious or revolting by means of a flowery name. The more obnoxious, the better the medicine.

In this department of drawers was a section devoted to herbs, barks, seeds and roots, dried flowers of many different kinds and sorts. Those most widely used were saffron, ginger, sage, wormwood, rhubarb, julep, myrrh, aloes and elder. Powdered aloes is today taken out of a similar drawer and sold over the counter in many a pharmacy, particularly in foreign sections of large cities, and nationally known pharmaceutical houses in 1934 were detailing an eye wash to physicians made from an infusion or distilled from elder blossoms. One of the most popular and widely used herbs in the sixteenth century was known as St. John's wort, and which, in order to be efficacious could be gathered only on St. John's Day. It was used to cure epilepsy and to drive out evil spirits from the sick.

There was also a section devoted to imported drugs. Considerable commerce existed with the Americas, usually by way of Spanish and English galleons, so that quinin, coca, sarsaparilla, and tobacco were part of the stock.

Under the compounding bench or counter were great earthen jugs and oil jars containing lard, marrow, goose fat and chicken fat.

In curious boxes made of horn, china, zinc, and of silver were kept ointments, salves, balsams, and solid extracts, gums, resins, etc.

There was also a special compartment or drawer for plasters, another for blistering agents, and another for liniments.

Then there were shelves for the famed nostrums and patents of the day, the quick sellers or quick movers, the Lydia Pinkhams, Perunas, etc., of the time. Most of these were high in spirit content, either rectified spirits or wine, surely not differing widely from recent times.

There was also a stock of strong acids, aqua fortis, oil of vitriol, etc., then oils, petroleum, essential oils and numerous "waters." Two were

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* From the author's collection of Medical Incunabula and old medical books.

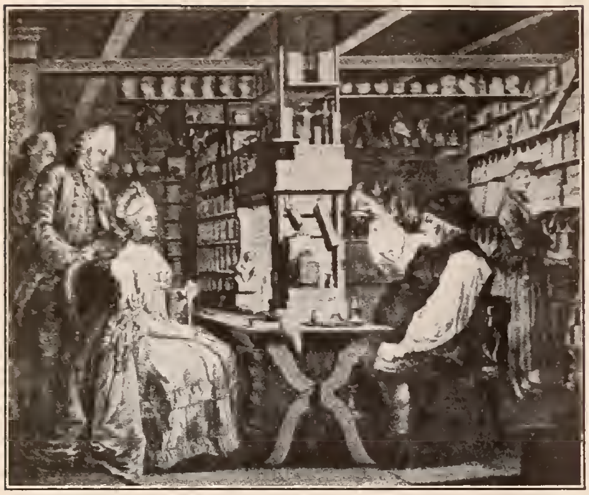

Fig. 2.—The urinalysis, a prominent feature of the pharmacy of the time.

very popular, an "aqua benedicta" or holy water, and an "aqua mirabilis," or "water of wonders."

The most popular concoction of the time, however, was a very complex and obnoxious mixture called "theriac." It contained anywhere from fifty to ninety-seven ingredients (one particularly popular), belonging to animal, vegetable and mineral kingdoms, the number of ingredients depending only upon whose particular theriac it was, in other words, what brand. Possibly, incompatibility of drugs was not of particular moment in that day.

THERIAC

Because of the tremendous expense attached to the compounding of "theriac," poor people were unable to avail themselves of it, so fifty or sixty ingredients would be left out and a "poor man's theriac" concocted, usually of the cheapest herbs. The real "theriac" usually contained portions of those parts of animals not usually mentioned in polite society. Gonadal therapy, however, has come to the fore in endocrine prescribing in recent years aided by the skillful teaching of certain well-known firms distributing multitudinous literature, blotters and calendars. Of course, the modern pharmaceutical firm compresses these organs (pulverized and dried) into a small tablet, which is inoffensive to the most delicate of sensibilities, while the pharmacist of the sixteenth century gave his testicular or ovarian extract straight and raw.

SOME REMEDIES FOR SCIATICA

To illustrate some prescriptions of this time, let us cite one which was most popular for the relief of *sciatica*.

℞ Three new-born dogs
Two living moles
Thirty-two earthworms
Folii laurel
Folii rosemary
Folii mint
Folii sweet marjoram } Of each a handful
Folii lavendar
Folii thyme
Folii St. John's wort

Boil these ingredients in three pounds of oil mixed with sufficient common wine to cover all, boiling until the wine is entirely evaporated, strain all of the liquid from the solid, and to this liquid add one pound each of liquid wax and goose fat. Allow to cool and solidify. Sig. Apply freely over the affected area.

A prescription for *rabies*, guaranteed a specific.

℞ Take the liver of a mad dog and soak in wine for six hours, then dry in oven. Pulverize. Sig., To be taken in wine or spirits.

For rheumatism:

℞ Eighteen live toads—close their nostrils and dry in the sun perfectly, then pulverize them.

℞ of this powder ʒ iv and arsenic ʒ ss

Root of diptanus allus Root of tormentilla erecta	ʒ iv
Pearls	ʒ i
Red coral—pulverized	ʒ i
Emeralds	ʒ i
Saffron—qs to color	
Musk and amber qs to impart fragrance	

Pulverize all of these ingredients very fine and make into a paste with aqua rosae and gum tragacanth. It is essential that this should be done when the moon is in the sign of Scorpion. Cut out tablets of this paste and dry well, cover with red silk and to be worn from the neck with a red string but must not touch the bare skin.

Note.—If the toads are not perfectly dried there will be an offensive odor and they will not pulverize readily.

A high priced specialty pharmacy would engrave on one side of such a tablet a snake, and on the other maybe a scorpion by using a special tablet board. An early incidence of attempting to identify one's own product by trademarking it.

A FEVER REMEDY

The next is a prescription whose use today would delight Californians, California farmers, Californians Inc., etc., and perhaps should be called to their attention.

It was a widely used remedy for *fever*.

℞ Salt—from an ocean bay preferably	ʒ iv
Hops—fresh	ʒ iv
Currants—white	ʒ iv
Raisins	ʒ iv

Mix and diligently beat into a brittle mass, spread upon linen and without adding water spread upon the wrists of the patient three times daily.

A famous elixir was composed as follows:

℞ Cinnamon	ʒ x
Ginger	ʒ v
Zedoary	ʒ iv
Nutmeg	ʒ iii
Elder root	ʒ iii
Calamus	ʒ ii

Dissolve these ingredients in a concoction of lemon juice mixed with strong hot wine. A half pint to be taken before meals.

The above is supposed to be a prescription revealed in a dream to Doctor Guaronarius by the Virgin of Loretto or St. Nothburga, who is still venerated in a tiny chapel in the little village of Achensee, Germany.

A PRESCRIPTION FOR THE BLACK PLAGUE

I shall cite only one more rather unusual prescription because it was recommended during the plague, but whether ever concocted is not told.

℞. Take the fresh cadaver of a red-haired, clear-skinned criminal, about twenty-four years of age, who has been killed preferably by hanging or by being impaled, or broken upon the wheel, and upon which corpse the sun and moon have shone but once.

Cut into slices, sprinkle with myrrh and aloes, macerate in strong wine, add musk to fragrance. Allow this mixture to digest for one month in a water bath at a very low temperature, stirring once daily.

It certainly did not behoove a red-head to be a criminal during a plague epidemic.

A CHINESE HERBALIST PRESCRIPTION

One is apt to accept these prescriptions as evidence of abysmal ignorance, of a barbaric order, and smile with superior sophistication at the erudition of our present day; but merely as a comparison I should like to cite a prescription used by a very famous Chinese herbalist within very recent time, and taken by a great many people of supposedly modern enlightenment and education. It is really worthy of comparison. It was one of those "good for what ails you."

℞ Dried lizards
Saffron
Rubber bark
Peppermint
Gamboge
Licorice
Beans—black (a peculiar type)
Dried locusts
Water bugs
Silk worms
Pith of a Chinese tea
Slippery elm bark.

A small handful of each boiled in one quart of water until one pint remains.

Sig.—A tablespoonful to be taken t. i. d. p. c.

But to leave prescriptions, and return to the actual pharmacy again: although there was no sandwich counter, nor cigar and cigarette department, there was a considerable portion of space devoted to milady's toilette. Cosmetics were even then a large part of the stock in trade, and a thriving business done in aids to the beauty, complexion creams and lotions; but the particular favorite of the ladies was a cucumber cream. Hair dyes and lotions guaranteed to grow hair existed even then, and formed a part of the stock.

OTHER ITEMS

An important business was done in love powders, aphrodisiacs mostly, composed of cantharides, bought with the idea of exciting amorous passion; and also powders for the quenching of such desires.

There was even a candy department; cane sugar in lumps, and broken up was as much desired by the younger generation then as today. Honey, conserves which were made very stiff and then cut into small squares and combinations of sugar, honey and conserve with various flavors, comprised the candy of the time.

There was also a stationery department where sealing wax, paper, ink and pens were sold.

Liquors, spirits and cordials were handled in the pharmacy.

The laboratory, where examinations of the urine were made and diagnoses given from these examinations, formed one of the most lucrative of activities.

In a corner or under the prescription bench were the equivalents of our pharmacopeias and national formularies, the great "herbals" of the day, pharmaceutical treatises, materia medicas, exceedingly rare and difficult for the collector to acquire today because practically priceless.

This is a brief description of the well-kept pharmacy of three hundred years ago. You will note that, with but very minor differences, it is the pharmacy of today. I use the word "pharmacy," not drug store. Again nothing new, merely the old over again. Fundamentals do not change.

450 Sutter Street.

CLINICAL NOTES AND CASE REPORTS

DIATHERMIC TONSILLECTOMY BY ELECTROCOAGULATION

By R. C. McLaughlin, M.D.
Los Angeles

A CONSIDERABLE number of people presenting themselves for tonsillectomy have been curious as to the method of electrocoagulation, to the end that a few physicians have adopted it as another means of satisfying the demands of the public, principally because of its conservativeness. Perhaps the majority of otolaryngologists have not favored this procedure; a few are quite enthusiastic, however, and feel very well satisfied with their results.

The method is attractive to the lay mind since it spells to it, at least, no loss of time from work, involves less pain, and to their minds it is not included in the category of a surgical operation. The complex of fear usually accompanying a surgical operation is not so great in the method of electrocoagulation. Furthermore, the attractions of this method are frequently noticeable in newspaper columns.

Following an experience with some fifty-five cases, certain conclusions regarding both its advantages and disadvantages may be stated briefly as follows:

ADVANTAGES

1. Tonsillar remnants may be removed with as little trauma or inconvenience as possible.
2. Patients who require tonsillectomy, and who are partially or wholly disabled with such diseases as tuberculosis of the lungs or glands (scrofula), cardiac lesions, hemophilla, etc., make suitable subjects.
3. In certain individual cases where the tonsils, acting as a foci of infection producing pathology in other parts of the body, may be treated and sterilized effectively by electrocoagulation without their complete removal.
4. Hemorrhage is less frequent by this method.
5. Perhaps some economic advantages.

DISADVANTAGES

1. For their complete removal tonsils require frequent treatments at intervals of seven to ten days and lasting over a period of six to eight weeks. It has been my experience that some patients become impatient of this lengthy treatment, despite their initial enthusiasm, and require con-

siderable persuasion to complete their treatments, if ever they are completed.

2. Sore throat follows each diathermic application in varying degrees, as well as some toxic absorption. This produces more or less fatigue of the patient and makes it difficult for him to carry on his work. In a few cases the soft palate and uvula become quite swollen, and this swelling lasts about two days, usually a shorter time than the same condition following a surgical tonsillectomy.

3. Complete removal of the tonsils by this method is not always accomplished, because definite knowledge of removal of the capsule cannot be certain, as in the surgical tonsillectomy. Portions of tonsillar tissue may remain, and may become embedded and concealed by scar tissue.

4. In my experience scar tissue formation is much more common following the diathermic method than the surgical method. It is difficult to determine, at or near the final treatment, whether one is coagulating lymphoid or muscular tissue.

In conclusion, I believe this method of tonsil removal is efficacious where surgery by enucleation is contra-indicated. It was used in cases of arthritis, iritis, latent or arrested pulmonary tuberculosis, cardiac diseases, infected tonsillar remnants, and in the elderly.

1200 South Alvarado Street.

CONGENITAL ABSENCE OF THE RIGHT KIDNEY*

REPORT OF TWO CASES—ONE WITH TRANSPOSITION OF THE SPLEEN AND SUBACUTE GLOMERULAR NEPHRITIS

By Charles E. Nixon, M.D.
and
H. M. Ginsburg, M.D.
Fresno

Congenital absence of one kidney is rarely found at necropsy, and we have not found any note of a case of absence of one kidney with a transposition of the spleen. Smith[1] reports a case of congenital absence of one kidney, with associated urethrorectal fistula and concomitant measles; he states that this makes the second case reported of a congenital absence of one kidney associated with a terminal nephritis due to an infection.

REPORT OF CASES

Case 1.—I. K., white male, aged one month, entered the hospital with the symptoms of a gastro-enteritis. Repeated urine examinations showed the presence of albumin and much pus. The child died one week after admission.

At autopsy the left kidney was found to be normal in size and shape. The pelvis of the kidney contained a small amount of purulent urine. The right kidney was absent; the right ureter was present, extending from the ureteral opening in the bladder to the retroperitoneal fascia in the upper lumbar region; there was a minute lumen present in the lower half of the ureter. No other congenital abnormalities were found.

* * *

Case 2.—A. D., white male, aged eleven years; entered the hospital with the complaints of puffiness about both eyes and over the bridge of the nose, swelling of the lower extremities, and nocturia. There was a history of scarlet fever six months previously, and a severe upper respiratory infection one week prior to admission.

On physical examination, there was noted puffiness of the eyelids, pitting edema of the lower extremities, and free fluid in the abdomen.

The blood picture on admission was as follows: hemoglobin, 65 per cent; red blood cells, 3,280,000; white blood cells, 9,200, with 70 per cent polymorphonuclear cells. Ten days later the hemoglobin was 45 per cent, and the red count was 2,840,000. During the ten weeks' course in the hospital before exitus, urine examinations showed specific gravities varying from 1.011 to 1.018; the constant presence of albumin (heavy trace) and hyalin and granular casts; occasionally, granular and cellular casts and a few red blood cells. Several examinations showed "many leukocytes." Urine cultures gave a growth of Staphylococcus aureus. Two months before death the blood N. P. N. was 45 milligrams per 100 cubic centimeters, and the creatinin was 1.8 milligrams. The phenosulphonephthalein excretion was 5 per cent in the first hour, and 10 per cent in the second hour. The patient ran an irregular temperature curve varying from normal to 102 degrees Fahrenheit, a pulse of 100 to 130, and a respiratory rate of 20 to 30 per minute.

Necropsy Report.—The body is that of a well developed, poorly nourished white male; estimated age about eleven years. Inspection shows puffiness of the face, edema about ankles and over tibial crests, a pale, pasty appearance of skin, and marked distention of the abdomen.

The parietal peritoneum is smooth and glistening. The peritoneal cavity contains one liter of free, straw-colored fluid. The border of the right lobe of the liver is in the midclavicular line, and is two finger breadths beneath the costal margin. On section the liver presents a mottled yellowish-brown color. The gallbladder is negative. The spleen is located on the right side, adjacent to the spine. The blood vessels of the spleen are normal, except for transposition. The spleen weighs 75 grams. It is grossly normal in appearance except for fetal lobulations. The gastrointestinal tract is negative except for moderate injection of the serosa of the intestines. The pancreas is negative. The left kidney weighs 175 grams. The surface is a pale gray color, mottled with red. The capsule strips readily. The cut surface of the parenchyma is of a grayish-white color. The anatomical markings of the parenchyma are indistinct. The cortex measures 18 to 20 millimeters in thickness. The left ureter is normal. The right kidney is absent, and no vestige of a ureter is found even at the bladder. The bladder is normal except for the absence of one ureteral opening.

Both pleural cavities contain about 100 cubic centimeters of clear, pale yellow fluid. Both lungs show considerable congestion and areas of bronchopneumonia. The pericardial sac contains 100 cubic centimeters of clear, yellowish fluid. The heart is negative.

Anatomical diagnosis:

1. Subacute glomerular nephritis.
2. Generalized ascites (hydroperitoneum, 1,000 cubic centimeters; hydrothorax, bilateral—100 cubic centimeters each, hydropericardium — 100 cubic centimeters).
3. Passive congestion of lungs and early bronchopneumonia.
4. Congenital absence of right kidney.
5. Situs inversus of spleen.

COMMENT

Two cases are reported of congenital absence of the right kidney, one with transposition of the spleen and a postsclartina glomerular nephritis.

General Hospital of Fresno County.

REFERENCE

1. Smith, Laurence W.: Congenital Absence of One Kidney with Associated Urethrorectal Fistula and Concomitant Measles, Am. J. Dis. Child., 42:1417, 1931.

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* From the General Hospital of Fresno County, Fresno.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

ASSOCIATED VALUES OF CLINICAL AND RADIOGRAPHIC FINDINGS IN THE DIAGNOSIS OF CHRONIC PULMONARY TUBERCULOSIS

PATHOLOGY AND PROGNOSIS

L. H. Garland, M. D. (450 Sutter Street, San Francisco).—Chronic pulmonary tuberculosis is characterized by the multiplicity of its pathologic changes. These include varying numbers of conglomerate tubercles, gross nodules, areas of caseous pneumonia, fibrosis, calcification, cavities, local atelectases and emphysemata, pleural thickening, adhesions, and effusion. The pathologic appearance, therefore, is variable. Despite all this variability, however, there are certain features common to the majority of cases: the lesions usually lie in the upper lobes, they tend to progress downward, and frequently they are bilateral. Lobular infiltrations in a similar location of other than tuberculous origin can, of course, simulate tuberculosis.

It is generally recognized that stereoscopic roentgenograms constitute the most precise and accurate means of determining the extent of pathologic involvement. While it is important that the roentgen examination be technically as perfect as possible, and that an adequate number of views be made, as well as a thorough fluoroscopic examination, it is considerably more important that an adequate and intelligent interpretation be made. The pathology of chronic pulmonary tuberculosis can be detected with extraordinary completeness if the films are studied by a competent radiologist, that is, by one who is adequately trained and who has an opportunity each year to attend a sufficient number of autopsies to keep fresh in his mind the dangers of interpreting too much or too little from the roentgen shadows.

The presence of cavities is of such significance in the treatment of the disease that their early diagnosis is of prime importance, and the early diagnosis of cavity can only be made by the roentgenogram. When a cavity can be diagnosed by physical signs, the disease is usually in a far-advanced stage. In addition to satisfactory roentgenograms, the fluoroscopic "cough test," to detect thin-walled cavities not otherwise demonstrable, should be employed. Limitation of space prevents a discussion of classification here; however, we note that at Trudeau Sanatorium and other centers the roentgen signs, instead of the older physical signs, are used as its basis.

The radiologist is often asked to give an opinion as to the degree of activity present; the most accurate method of doing this is by the study of serial stereoscopic roentgenograms. In this connection it should be emphasized that the roentgenogram should never be allowed to stand alone, but should always be correlated with all of the clinical findings. In general, the relative value of clinical and radiographic findings can be well illustrated by reproducing the accompanying table (Table 1) taken from Sampson and Brown's article.*

Table 1.—*Correlation of Physical Signs (P. S.) with X-Ray Findings (X. R.) in 1004 Cases of Pulmonary Tuberculosis*

P. S. Equal to X. R.	P. S. More than X. R.	P. S. Less than X. R.	P. S. Nil X. R. Pos.	P. S. Pos. X. R. Nil	Mixed	392 Cases with Cavity P. S. in 58 15%
211	19	361	396	0	17	
21%	2%	36%	39%	0	2%	

As far as prognosis is concerned, serial roentgenograms again constitute the basis upon which the duration and severity of the disease may best be gauged. The grave implications of a cavity, and the importance of determining the condition of the surrounding lung tissue, indicate the value of roentgen examination. If one were compelled to utilize but a single roentgen examination in establishing the prognosis in a given case, the clinical findings and history would possibly far outweigh the roentgen findings; however, in view of existing facilities in most localities, to hazard prognosis from a single roentgen examination would appear both unwise and unnecessary. Serial roentgen examination, using intervals of from one to six months, depending on the severity of the case, constitutes the most accurate means of prognosis.

* * *

DIAGNOSIS

Henry Snure, M. D. (1501 South Figueroa Street, Los Angeles).—The greatest value of the roentgenologic examination is in the early cases of pulmonary tuberculosis, when the clinical signs are absent or indefinite, and in the assistance it gives in checking up various surgical procedures; yet its value in the diagnosis of chronic pulmonary tuberculosis should not be underestimated. It is true that many chronic cases of pulmonary tuberculosis, with little or no clinical signs referable to the chest, are first discovered by the roentgenologic examination. These patients come in with gastric or other symptoms not suggestive of pulmonary tuberculosis; the referring physician may feel that he has been remiss in his physical examination in not discovering the tuberculous infection, yet a careful repeat physical examination, with the knowledge of the exact location and size of the tuberculous area as disclosed by the roentgenologic examination, will yield negative results. Heise has pointed out that cavities as large as five to six centimeters in diameter may not give any physical signs. The clinical signs, such as increased weight, cessation of fever, etc., may indicate improvement while the roentgenogram shows a definite anatomical extension of the disease.

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* "Correlation of Clinical and Roentgenologic Observations in Pulmonary Tuberculosis," Radiology, 22:1, 1934.

It is also true that in cases of long duration of active infection which reveals itself as the stringy type of shadow on the roentgen film, the so-called chronic proliferative type, the increased temperature or other clinical signs may continue for months, or even years, without any definite anatomical change demonstrated on the film. It is important, therefore, that the roentgenologist have a complete history of the case in question—whether examining his own films or those made elsewhere—that he may evaluate the limitations or importance of his particular method of examination as applied to the particular case under discussion.

The investigation of large groups of individuals in industry affords an opportunity to study the associated values of clinical and roentgenologic findings in the diagnosis of chronic pulmonary tuberculosis.

In an examination of two thousand food handlers in New York City, Martin, Pessar, and Goldberg found two per cent of active pulmonary tuberculosis in apparently healthy individuals. They are outspoken concerning the comparative value of the physical examination and the x-ray, stating that "when the question of tuberculosis is involved no physical examination of the chest is of any value without the x-ray." Possibly the above is somewhat overenthusiastic. It must be remembered that it is the combined physical and roentgenologic examination that is of the most value, and that all methods have their limitations. During the past year I have seen three cases of chronic infection of the lungs by Friedlander's bacillus, in which the physical examination and roentgen film favored tuberculosis, yet the clinical laboratory examination supplied the correct answer. The diagnosis of actinomycosis, moniliasis, or other fungi may depend entirely on the clinical laboratory examination. What may appear to be a typical case of silicosis by roentgen-ray and physical examination may be proved to be also tuberculous by the presence of bacilli of tuberculosis in the sputum. Space does not permit discussion of atypical roentgen-ray findings in bronchiectasis, resolving pneumonia, metastasis, bronchiolitis, etc., that may resemble tuberculosis.

In another large group of employees and applicants that were carefully examined both by roentgen-ray and physical examination with the express purpose of determining the value of the two methods of examination, a larger percentage of tuberculous patients were found by means of the roentgen ray. These were employees of the Metropolitan Life Insurance Company, and the results of seven years' study of the various examinations in 17,000 individual cases was reported by Fellows in the February, 1935, number of the *American Journal of Public Health*. This study was begun because it was noticed that a certain number of employees developed definite tuberculosis only a few months after a careful physical examination that was negative for evidence of tuberculosis. The fluoroscope was used instead of films because it was more economical, although stereoscopic films would give a somewhat larger number of positive findings. Fellows sums up the report as follows: "After seven years' experience with our present routine of chest examination, we believe that we have made real progress in handling our pulmonary tuberculosis problem. Realizing that a physical examination, no matter how painstakingly done, does not reveal abnormal signs in a large number of tuberculous cases, we have met this shortcoming by adding a routine fluoroscopic examination and roentgenographic examination of cases selected by this method for further study. From the administrative standpoint, this method is rapid and economical, as, checked by x-ray examination, it is accurate."

By means of the roentgen ray the majority of their cases were detected before the individual became "ill," and before physical signs appeared.

For those especially interested in the correlation of clinical and roentgenologic observations in pulmonary tuberculosis, I would recommend a careful reading of an excellent article on this subject in the January, 1934, number of *Radiology* by Homer L. Sampson of the Trudeau Sanatorium and Dr. Lawrason Brown of Saranac Lake. The following excerpts are practically verbatim statements. They believe that the roentgenogram alone yields sufficient accurate data to classify tuberculosis and point out that recent advances in the study of the etiology, diagnosis, prognosis, prophylaxis, and treatment of pulmonary tuberculosis are rather closely associated with the technical improvement in the roentgenogram. Collapse therapy, and especially thoracoplasty have developed largely since the perfection of the roentgenologic examination. They also state that serial roentgenograms are probably the most accurate means of determining activity. Note carefully, also, that they believe the roentgenograms should be used to perfect, *not to replace*, the usual methods of physical diagnosis in pulmonary disease. In a study of 280 patients with minimal pulmonary tuberculosis, it was shown that 277 had definite roentgenologic evidence and only seventy-six presented definite evidence of physical signs.

In still another attempt to compare relative values of physical signs and roentgenologic findings, when 1,004 consecutive patients were studied, 392 of these patients had definite roentgenologic signs of cavity, while only 58 (15 per cent) had physical signs suggestive of cavity. In 211 cases the extent of the disease was equally shown by both methods. In nineteen cases the physical examination suggested greater extent than the roentgenogram. In 361 cases the roentgen ray indicated greater extent than was inferred from physical signs. In 396 the roentgenogram showed definite evidence of pulmonary tuberculosis, while the physical signs were practically normal.

In another series of 1,367 patients diagnosed as having tuberculosis, 68.5 per cent had definite râles and 99 per cent definite roentgenologic findings.

Another study of 503 patients with indefinite or negative physical signs and positive roentgen-ray findings, 84 per cent later presented clear-cut clinical evidence of the disease. In still another study of 2,600 consecutive cases, with 298 negative roentgenograms, only two with negative roentgenograms later developed tuberculosis.

The above excerpts from Doctor Brown's paper clearly indicate the superiority of the roentgenogram as compared with the physical examination.

Recently some authors have stated that the leukocyte reaction is superior to both roentgen-ray and physical examination; at any rate the roentgenogram is placed ahead of the physical examination. I believe that the majority will agree with Heise, who, in speaking of the adult type of tuberculosis, states: "As with childhood disease, the x-ray gives a great deal more definite idea as to the presence, the extent and character of the disease than can be elicited from physical signs." He also reminds us that while hemoptysis may suggest tuberculosis, yet the roentgen-ray examination can disclose bronchiectasis, heart lesions and malignant growths of the bronchii, lungs and pleura as the cause. I think the majority will also agree with Merrill when he states: "Without going into technical details, the x-ray study of the chest is a complex matter requiring as much knowledge as possible of the different manifestations of lung pathology, as well as normal anatomy and physiology, and experience in the interpretation of the characteristics of the normal and pathological chest negative."

While in large groups of school children and employees the roentgen-ray examination may be used as a routine procedure, the cases in private practice will continue to be referred on the basis of history and physical examination. Although the roentgen examination appears to be superior to the physical examination alone, the proper study of the individual case demands the use of both methods, plus any help that the clinical laboratory may give us.

* * *

CORRELATION OF ROENTGEN AND CLINICAL FINDINGS

John D. Lawson, M.D. (1306 California State Life Building, Sacramento). — The diagnosis, prognosis and treatment of pulmonary tuberculosis have received great stimulus since the advent of roentgen investigations of the thoracic cage. This is particularly true of the past decade, during which period much improvement has been made in physical equipment necessary in the production of diagnostic roentgenograms.

It is true that no aggregate of signs, symptoms, or examinations, other than the actual demonstration of tubercle bacilli in the sputum, is finally diagnostic of parenchymal pulmonary tuberculosis. However, in competent hands, associated clinical and roentgenologic findings have become so accurate and valuable that the percentage of diagnostic error is so low as to be negligible.

The common tendency of physicians to refer all chest cases to the radiologist for examination, and then to accept his diagnosis, without a careful history and examination of the patient, is to be heartily condemned. It is true that the radiologist will make a correct and proper diagnosis in a high percentage of the patients; but this duty and privilege should rest absolutely with the clinician. He should arrive at his diagnosis only after a careful and painstaking examination and association of his findings with those of the radiologist and other consultants.

Authoritative statistics indicate that roentgen diagnosis in incipient disease is more accurate and will have a higher percentage of correct positive findings than will the physical examination. However, there is a certain small group of patients who on x-ray examination do not evidence any positive pathologic change, but do present on careful physical examination definite evidence of a Koch's infection.

It is in the early and borderline cases, and where the question of differential diagnosis enters, that the radiographic findings are of most importance and value. Certainly, the diagnosis of a far-advanced tuberculosis of the lungs, with cavitation and caseation, is not a clinical question requiring the confirmation of the roentgenologist. True, roentgen findings may play an important part in prognosis and treatment, but so far as diagnosis is concerned the history and physical examination are sufficient in themselves.

If it is agreed that the foregoing paragraph is true, then it must follow that the most careful technique, together with all of the finer modifications of radiographic procedures, must be utilized to produce films of the highest quality. Not only must this dictum be followed, but interpretation should not be attempted by a novice, nor by one who has not had proper training in radiographic diagnosis. The diagnosis of borderline cases requires a detailed knowledge of anatomy, physiology, pathology and, most important of all, the roentgen manifestations of variations from the normal.

The use of sensitized paper, inadequate equipment and interpretation by one not adequately trained in roentgenology is worse than no investigation at all. Those patients who have moderately advanced or far-advanced lesions will probably be correctly diagnosed. Those same patients will also have a proper clinical diagnosis. But the few patients with early lesions, with questionable physical findings, the ones in whom a good clinical result can be assured, will probably be missed.

These incipient and borderline diagnoses are difficult in the hands of experienced and qualified radiologists when they have at their disposal all of the facilities for the best work, and exercise these facilities to the utmost. How foolhardy and wrong it is for unqualified individuals, whether they be lay or professional, to attempt this field at the expense of the patient's health and possibly at the expense of his life!

It is highly desirable that the clinician should consult personally with the roentgenologist. Both are physicians, and in their conference the individual findings should be gone over in detail, discussing the various points of importance brought out by each examination.

Certain findings, such as fibrosis, caseation, cavitation, and adenopathic changes, will have considerable bearing on the prognosis and treatment of the patient. The location of the lesion, as demonstrated on the plate, is of considerable importance, and yet the radiologic findings are not, of themselves, sufficient to stand alone. The reaction of the patient to the infection, which may be seen to a degree in the x-ray examination, is of course observed in detail in the clinical study. The general health and other modifying factors can only be evaluated from the clinical findings.

The differential diagnosis of some lesions can be accomplished only through correlation of findings. An excellent example of this statement was observed recently in a patient complaining of cough, profuse sputum, afternoon febrile reaction, and slight weight loss. These symptoms were of about one month's duration.

Physical examination revealed a slightly dull area, about the size of a dollar, in the right top. In this same area were heard many fine crepitant râles and some coarse rhonchi. Radiographic examination revealed an area of consolidation, about three centimeters in diameter, in the right upper lobe and a slight increase in density in the right hilus region, due to adenopathy. The remaining parenchymal areas were clear.

On physical examination an area of tumefaction was observed in the right submaxillary area. On questioning, the patient stated that this lump had appeared about two months before, but that it had not caused him any difficulty and that he had not paid any attention to it. The tumor was hard and smooth; there was some slight erythema over the lesion, certainly not a characteristic tuberculous gland. Biopsy was done, and the sulphur granules and ray bodies of actinomycosis were identified. On the basis of these findings the lesion in the chest was diagnosed and treated as an actinomycotic metastasis, and the patient experienced a slow but absolute recovery.

On the basis of roentgen findings alone, this man would have been diagnosed as having pulmonary tuberculosis and treated as such. The correct diagnosis would not have been made until a much later date, by which time the disease might have progressed to an incurable stage.

This is not an isolated instance of the necessary association of the clinician and the roentgenologist in the diagnosis of tuberculosis. Similar occurrences are observed almost daily.

The prognosis and treatment of tuberculosis find the roentgenologist furnishing invaluable aid to the clinician. Processes of extension or regression, too small in degree to be accurately estimated by clinical procedures, are evidenced quite clearly to the trained radiologist, and can be of great assistance in determining the mode as well as the efficacy of the therapy.

If only one conviction can be gleaned from this short discussion, I trust that it will be that consultation and correlation of findings between the clinician and radiologist are of greatest importance. A primary premise is, however, that the radiologist is properly qualified, and has used all of the finest points of technique and diagnostic procedures available in formulating his opinion.

* * *

THE RADIOGRAPHIC EXAMINATION IN CLINICAL PRACTICE

Carl R. Howson, M.D. (307 West Eighth Street, Los Angeles).—The radiographic examination of the chest is an integral part of the physical examination; it is a form of internal inspection. True, it falls far short of yielding the exact knowledge which an actual inspection of the tissues discloses, but it nevertheless does give information which is frequently not obtainable in any other way.

Many factors operate to prevent the transmission of changes in the breath sounds which would convey to the examiner definite knowledge of pathologic changes in the pulmonary tissues. Those most commonly met with are thickened pleura, the presence of a thin layer of air-bearing tissue superficial to the diseased area, obstruction to the free flow of air in and out of a cavity, location of infiltration or cavitation at a point inaccessible to the stethoscope, etc. Great differences in the ability of individuals to elicit and detect the physical signs originating in the chest are apparent, even among the expert. For these and other reasons set forth below, no examination of the chest is complete unless it includes a postero-anterior roentgenogram, preferably stereoscopic, and at times one or more additional views taken at different angles or in different positions.

Cases of true *acute tuberculosis* (miliary, pneumonic, or bronchopneumonic) are not met with very frequently in general practice, and when seen they not uncommonly offer difficulties in diagnosis. This is especially true of the early stages of acute miliary tuberculosis, where the radiographer can usually settle any question promptly and definitely.

As a rule, the *diagnosis* of chronic proliferative (fibroid) tuberculosis can be made by a carefully taken history and a physical examination, particularly when the findings are confirmed by the presence of acid-fast organisms in the sputum. Occasionally, small apical lesions will be missed.

The exudative type of lesion commonly has an acute onset. A process of fairly large extent can usually be detected without difficulty, but small lesions have a decided tendency to locate in the infraclavicular region, often coming to the surface under the shoulder or scapula, where they are almost inaccessible to the stethoscope and may very easily be overlooked if a film is not made. With the subsidence of the acute stage, we frequently have the development of a mixed type of lesion, to which the term "fibrocaseous" is applicable. In both these types there is a marked tendency to cavity formation.

The difficulty of diagnosing cavitation with certainty on the basis of the physical findings alone has long been recognized, but it is only since the systematic use of the x-ray became general that we have realized how great the difficulty really is, and how many cavities have been overlooked. It requires only a layer of thickened pleura, or one centimeter of air-bearing lung tissue superimposed between the cavity and the chest wall to convert it into a "silent" cavity, giving no physical findings whatever that would suggest its presence—unless one might infer it from evidence of fibroid retraction in its vicinity. A few years ago the phthisiologists felt that they were being generous when they admitted ability to recognize only 40 per cent of cavities by physical examination alone. Close scrutiny of the films in a series of cases recently reported from Saranac Lake showed that only 5 per cent of the cavities were recognized on physical examination. This, of course, means the inclusion of every annular shadow, however small, which is interpreted as indicating a cavity of more than microscopic dimensions.

The recognition of cavitation is admittedly not necessary to establish the diagnosis of active tuberculosis, but may be of considerable value in the *differential diagnosis*. There are many nontuberculous conditions which may simulate tuberculosis, both symptomatically and by physical signs. The differentiation of pneumoconiosis from tuberculosis is not always easy; especially is this true when the two coexist, as is frequently the case in third-stage silicosis. Tumors of all kinds may give rise to physical signs identical with those of tuberculosis. The symptoms of early bronchiectasis, syphilis of the lungs, early malignancy, coccidioidal granuloma, etc., are at times indistinguishable from those of tuberculosis, and the physical findings may so closely approximate them that it is difficult, if not impossible, to get along without the aid of roentgenograms.

From the standpoint of *prognosis*, not only is it desirable to know whether we are dealing with a predominantly proliferative or predominantly exudative type of lesion, but it is important to know whether cavitation is present, and if so, its location, extent, and the character of the reaction in the tissues surrounding it. The more extensive the cavitation the graver is the prognosis. Cavities in the apex are less serious than cavities lower down in the lung. A cavity which is surrounded by a very thin wall, with little evidence of fibrosis, indicates a more recent process than one which is surrounded by a dense fibroid wall. The details of the pathology in the deeper portions of the lung which are not accessible to physical examination are also an essential part of the picture.

Of even greater importance than the prognosis, however, is *treatment*. The time is long past when the physician who simply puts his tuberculous patient to bed and on a high caloric diet can be considered as having done his duty by that patient. The development and perfection of the various methods of collapse therapy have entirely changed the outlook for a large proportion of patients. Without the aid of the x-ray it is impossible to fully evaluate the pathologic changes in the lung and reach a proper decision as to whether the case is one requiring the institution of collapse therapy, and, if so, the proper type.

The patient's symptoms and the physical findings tell us much about that patient's *progress*, but occasionally they may be misleading. The lesion may be progressing in the face of symptoms which are stationary or even improving. It may be healing and yet the physical signs be increasing. Visualization by means of the x-ray is frequently the only means of telling the true state of affairs, and serial x-rays, taken at intervals, furnish an unquestionable index of the patient's progress. Early extensions in the better lung are frequently deep-seated, and may give evidence of their presence on the film weeks, or even months, before physical signs appear.

The diagnosis of *activity* on the basis of a single or stereoscopic roentgenogram is seldom justified, and has many times wrought much injustice and even serious injury to the patient, to say nothing of embarrassment or worse to the doctor. If serial pictures show a progressive lesion, it is conclusive evidence of activity either at the time of the previous picture or subsequent thereto.

If collapse therapy is undertaken, the x-ray is indispensable. Only by its aid can we determine the degree of collapse of the lung, the presence of adhesions which may be preventing complete collapse, the status of the cavities, and the position and integrity of the mediastinum, etc.

In the detection of *childhood tuberculosis*, we have to depend upon the x-ray to a much greater degree than in the adult types. These lesions, which follow *primary infections*, are prone to develop without sypmptoms, and as a rule are of such small extent that they are not detectable by physical signs alone. The use of the x-ray in making surveys of large groups of young children, particularly contacts with open cases, has shown the existence of an astonishing number of active infections of this type, and has made necessary a complete revision of many of our concepts regarding the character of tuberculous infection in childhood, and the resistance of the child and adult to first infection.

These lesions are essentially benign, and the vast majority of them subside without material damage to the lung, leaving only a few fibrous strands or a small fibrous nodule which shows a marked tendency to calcification, and/or one or more calcified hilum nodes. Of these areas, it may safely be said that they are impossible of recognition during life except by means of the x-ray.

To sum up: The x-ray should always be used in conjunction with a physical examination of the chest. Its value in assisting the clinician to reach a conclusion as to the presence of active tuberculosis will be in inverse proportion to his skill in eliciting and evaluating the history and physical signs, with such aid as the bacteriological laboratory can give him. Beyond this, however, and second in importance only to such diagnosis, the x-ray is an invaluable aid in establishing the detailed diagnosis usually necessary for prognosis, and is *always* necessary for intelligent treatment.

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EDITORIALS*

THE FIFTY-FIRST CALIFORNIA LEGISLATURE HAS ADJOURNED

The California Legislature Adjourned at Midnight on Sunday, June 16, 1935.—At midnight on Sunday, June 16, 1935, the Fifty-First California Legislature adjourned, some twenty-five days after the date, May 22, on which Senators and Assemblymen ceased to receive pay for their services as lawmakers. It may now be in order to check on the positive and negative accomplishments of this last legislature, especially with reference to proposed laws which would have had a bearing on public health and medical practice. On the whole, it is pleasant to record that the end-results of the recent legislative session were sufficiently satisfactory to compensate for the efforts put forth.

* * *

Thanks of the Association to All Who Cooperated in the Recent Legislative Session.—As in previous years, the members of the California Medical Association have cause to be grateful for the results secured under the leadership of the efficient chairman of the Association's Committee on Public Policy and Legislation, Dr. Junius B. Harris of Sacramento, who, with his coworkers and associates, rendered yeoman service. Regarding Doctor Harris, it is proper to state that few, if any, members of the organized medical profession of the State have been called on so often, in recent years, as has Doctor Harris, to give to their fellows so much of time and energy, and that to the detriment of his own professional and personal interests. These efforts, on behalf of Association interests, he has put forth generously and whole-heartedly, and even though at times his personal points of view were not in full harmony with the policies outlined for him to follow. For this willingness and ability to carry out Association policies, Doctor Harris deserves, and has the appreciation of all officers and members. Thanks are due also his fellow committeemen, Doctors Fred R. DeLappe of Modesto and E. T. Remmen of Glendale, and likewise to Mr. Ben Read of the Public Health League; and to many officers and members of component county societies who have given excellent support when called on for special aid. Worthy of mention again are the members of the Committee of Six, to whom thanks were expressed in last month's issue of the JOURNAL, and General Counsel Hartley F. Peart who, during this trying session, again and again, rendered most important service to the legislative and other committees.

With these preliminary comments, brief consideration may now be given to certain of the proposed laws.

* * *

Comments on Different Bills.

Senate Bill 454 and Assembly Bill 1097 (Health Insurance Bills).—Excerpts on course followed by these bills and their final status, as taken from *Senate* and *Assembly Daily Journals*, follow:

Senate Bill 454—Williams, Tickle, and Difani, January 25. To Committee on Public Health and Quarantine.

An act to provide for the establishment and administration of a system of health insurance for persons in certain income groups.
January 25—Read first time. To printer.
January 26—From printer. To committee.
April 12—From committee with recommendation: Be amended, and re-referred to Committee on Public Health and Quarantine.
April 15—Read second time. Amended. To printer. From printer. To Committee on Public Health and Quarantine.
April 18—From committee with recommendation: Be amended, and re-referred to Committee on Public Health and Quarantine.
April 19—Read second time. Amended. To printer. From printer. To Committee on Public Health and Quarantine.
April 23—From committee with recommendation: Be amended, and re-referred to Committee on Public Health and Quarantine.
April 24—Read second time. Amended. To printer. From printer. To Committee on Public Health and Quarantine.
May 2—From committee with recommendation: Do pass as amended.
May 3—Read second time. Amended. To print, engrossment, and third reading.
May 6—Reported correctly engrossed.
May 7—Read third time. Amended. To print, and re-engrossment.
May 8—Amendments adopted on May 7 rescinded by Senate.
May 23—Re-referred to Committee on Public Health and Quarantine.

Assembly Bill 1097—Anderson, January 25. To Committee on Social Service and Welfare.

An act to provide for the establishment and administration of a system of health insurance.
January 25—Read first time. To printer.
March 4—From printer. To committee.

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* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

May 10—From committee without recommendation, as amended. Read second time. Amended. To printer. From printer. To engrossment.
May 11—Reported correctly engrossed. Re-referred to Committee on Social Service and Welfare.
June 16—Stricken from calendar.

Comment: These bills were discussed in the March issue of California and Western Medicine, on page 390, and in the April issue on pages 471 and 472. The Committee of Six of the California Medical Association refused to give approval to the bills as amended, and neither measure went on to passage.

These are the two bills to which Eastern colleagues have taken such great exception.

* * *

Senate Bill 471 (Hospital Service Bill).—In the last weeks of the legislative session (see June California and Western Medicine, page 473), Senate Bill 471, introduced by Senator Difani of Riverside, became a source of real conflict. It was supported by the State Insurance Department, the Affiliated Teachers of Los Angeles, the Ross-Loos Clinic of Los Angeles, and the Mount Moriah Hospital Association of San Francisco. Assemblyman James D. Garibaldi of Merced introduced amendments on behalf of the medical profession, whereby "medical service" was eliminated from the bill, leaving a bill that permitted hospital service, but with heavy financial requirements. The proponents then asked that it be re-referred to committee, and there the bill died. The record from the *Senate Daily Journal* follows:

Senate Bill 471—Difani, January 25. To Committee on Insurance.

An act to amend the Insurance Code by adding thereto a new chapter, to Part 2 of Division 2 of said code and to be numbered Chapter 13, relating to medical and hospital service insurers.
January 25—Read first time. To printer.
January 26—From printer. To committee.
April 25—From committee with recommendation: Do pass as amended.
April 26—Read second time. Amended. To print, engrossment, and third reading.
April 29—Reported correctly engrossed.
May 3—Read third time. Amended. To print, and re-engrossment.
May 6—Reported correctly reëngrossed.
May 14—Read third time. Amended. To print, and re-engrossment.
May 15—Reported correctly reëngrossed.
May 16—Read third time, passed, title approved. To Assembly.
May 17—In Assembly. Read first time. To Committee on Insurance.
May 22—From committee with recommendation: Do pass as amended.
May 23—Read second time. Amended. To printer.
May 24—From printer.
June 12—Read third time. Amended. Considered by unanimous consent without reference to reprint. To printer. From printer.
June 14—Re-referred to Committee on Insurance.

* * *

Assembly Bill 1552 (Qualifying Certificate—Basic Science Bill).—The Qualifying Certificate or so-called Basic Science Bill has been commented on in previous issues of California and Western Medicine (March, page 191; April, page 272; May, page 391; June, page 473). Introduction of the bill in the legislature brought to light many suggestions which will be carefully considered when the initiative draft is prepared for the State election in the fall of 1936. The Assembly record reads:

Assembly Bill 1552—Anderson and Boyle, January 26. To Committee on G. E. and E.

An act to establish a State Board of Qualifying Certificate Examiners in the fundamental sciences underlying the practice of the healing arts, to provide for its organization and powers, to provide that certification by such board be a prerequisite to eligibility for examination for a license to practice the healing arts and to define healing arts.
January 26—Read first time. To printer.
March 4—From printer. To committee.
March 20—From committee without recommendation, as amended.
March 21—Read second time. Amended. To printer.
March 22—From printer. To engrossment.
March 25—Reported correctly engrossed. Re-referred to Committee on G. E. and E.

Assembly Bill 1765 (Protection of Professional Degrees).—This bill was submitted under the sponsorship of the "League for the Maintenance of Professional Standards." * Its purposes were discussed in the April issue, page 273, and June issue, page 474. The measure went on to passage and is now before Governor Frank Merriam for consideration. Members can render a real service by writing Governor Frank Merriam, The Capitol, Sacramento, endorsing the measure. It will prevent incorporation of fly-by-night institutions of learning, and will safeguard the granting of degrees. Its legislative record follows:

Assembly Bill 1765—Cronin, January 26. To Committee on M. and D. L.

An act to establish standards for the granting and use of professional degrees in the learned professions and providing penalties for the violation hereof.
January 26—Read first time. To printer.
March 4—From printer. To committee.
April 11—From committee without recommendation, as amended.
April 12—Read second time. Amended. To printer.
April 15—From printer. To engrossment. Reported correctly engrossed. Re-referred to Committee on M. and D. L.
May 15—From committee with recommendation: Do pass.
May 16—Read second time.
May 24—Read third time, passed, title approved. To Senate.
May 27—In Senate. Read first time. To Committee on University and T. C.
May 28—From committee with recommendation: Do pass.
May 29—Read second time.
June 8—Read third time. Passed. Title approved. To Assembly.
June 10—In Assembly. To enrollment. To Governor.

* * *

Assembly Bill 1009 (Fee for Clinic Registration).—Commented on in the March issue, page 191. As then stated, the previous registration fee of five dollars was inadequate to carry out the purposes of the original clinic bill. If Governor Merriam attaches his signature, the annual fee hereafter will be twenty dollars. Excerpts from the Assembly record:

Assembly Bill 1009—Nielsen, January 24. To Committee on M. and D. L.

An act to amend Section 9 of "An act defining clinics and dispensaries, providing for the operation, conduct, maintenance, examination and regulation thereof, requiring permits therefor, providing for the issuance and revocation of such permits by the State Board of Public Health, fixing the amount of and providing for the collection and disposition of annual fees for such permits, creating the clinic and dispensary fund, prescribing the powers and duties of the State Board of Public Health and of the Director of Public Health in reference to such clinics and dispensaries, and prescribing penalties for the violation of the provisions of this act," approved June 5, 1933, relating to annual fee for permits.
January 24—Read first time. To printer. . . .
May 1—Read third time, passed, title approved. To Senate.
May 2—In Senate. Read first time. To Committee on Government Efficiency.
May 11—Read second time. Amended. To printer.
May 23—Read second time.
May 24—Read third time, passed, title approved. To Assembly.
May 25—In Assembly. To enrollment.
June 15—Reported correctly enrolled. To Governor at 3 p. m.

* * *

Assembly Bill 2401 (Antivivisection—Dog Pound Bill).—Sponsored by Assemblyman Charles J. Wagner of Alameda, who listed himself as business manager of the Butchers' Union, was commented on in the April issue, page 273; May, page 391; and June, page 474. Its very brief career, before it died in committee, is outlined thus:

Assembly Bill 2401—Wagner, April 1. To Committee on Public Health and Quarantine.

An act to regulate the conduct of pounds, prescribing the duties of persons in charge thereof or employed thereat, and regulating the disposition of animals impounded or sheltered therein.
April 1—Read first time. To printer.
April 2—From printer. To committee.

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* The League is a Los Angeles organization of some years standing. Its president is Dr. William Duffield; its Council chairman, Dr. George H. Kress. Assembly Bill 1765 was prepared under their direction.

Assembly Bill 2397 (Use of County Hospitals).—This measure was discussed in the April number, page 273, and in the June issue, page 474. Went on to a deserved death in committee:

Assembly Bill 2397—Heisinger, March 27. To Committee on County Government.

An act to add Section 4041.16 to the Political Code, relating to the powers of the boards of supervisors.
March 27—Read first time. To printer.
March 28—From printer. To committee.
May 14—From committee without recommendation, as amended.
May 15—Read second time. Amended. To printer. From printer. To engrossment. Reported correctly engrossed.
May 16—Re-referred to Committee on County Government.

* * *

Senate Bills 154, 155, 468, 820, and Assembly Bill 2305 (Medical Practice Act Bills).—Five bills offered by the Board of Medical Examiners of the State of California went on to passage, as follows:

Senate Bill 154, amending Section 14, now in the hands of the Governor.
Senate Bill 155, amending Section 10 (re foreign graduates), sent to the Governor on June 15, 1935.
Senate Bill 468, adding Section 18-a, re injunctions, sent to the Governor on June 15, 1935.
Senate Bill 820, amending Sections 2 and 13, sent to the Governor on June 14, 1935.
Assembly Bill 2305, adding Section 9-a to the Medical Practice Act, re chiropody, to the Governor on June 15, 1935.

* * *

Miscellaneous Bills.—Excerpts from the *Daily Journal* records concerning certain other bills, giving titles, date of submittal and final action, all failing of passage, are as follows:

Assembly Bill 417—McCormack, January 25. To Committee on Government Efficiency.

An act authorizing a nursing survey to be made by the University of California, defining the powers and duties of the State Director of Finance in relation thereto, and making an appropriation therefor.
January 25—Read first time. To printer.
January 26—From printer. To committee.

Assembly Bill 1928—Flint, January 26. To Committee on H. and H.

An act amending Section 3 of "An act to amend Sections 2 and 3 of an act entitled 'An act to provide for the establishment and maintenance of a Bureau of Tuberculosis under the direction of the State Board of Health; defining its powers and duties; providing for the granting of State aid to cities, counties, cities and counties and groups of counties for the support and care of persons affected with tuberculosis; making an appropriation therefor, and repealing certain acts of the Legislature of the State of California,' approved June 12, 1915, as amended," relating to subsidies.
January 26—Read first time. To printer.
March 4—From printer. To committee.

Assembly Bill 2158—Clark, January 26. To Committee on Judiciary.

An act making it unlawful for hospitals, clinics, sanitariums, physicians, surgeons or other persons to refuse inspection of records by attorneys.
January 26—Read first time. To printer.
March 4—From printer. To committee.

Assembly Bill 1037—Peyser, January 25. To Committee on M. and D. L.

An act to safeguard the public health by regulating the use of x-rays on living persons in the State of California.
January 25—Read first time. To printer. . . .
June 15—In Senate. Read first time. To Committee on Government Efficiency. From committee with recommendation: Be amended and re-referred to Committee on Finance. Read second time. Amended. To printer. From printer.
June 16—Read third time, passed, title approved. To Assembly.
June 16—In Assembly. Senate amendments concurred in. To enrollment.

Assembly Bill 2154—Riley, January 26. To Committee on Public Health and Quarantine.

An act to provide for the establishment and maintenance of a bureau in the State Board of Public Health for the suppression of noxious odors, prescribing its powers and duties and making an appropriation to carry out the provisions hereof.
January 26—Read first time. To printer.
March 4—From printer. To committee.
May 10—From committee with recommendation: Do pass and be re-referred to Committee on W. and M. Re-referred to Committee on W. and M.

* * *

County Societies Should Begin Preparations for the Next Legislative Session.—From the above, members can draw their own conclusions as to how the Association fared on some of the measures which came up for consideration; and now that the legislature has adjourned, both officers and members of the component county societies are in position to rest a bit before girding themselves for the struggles and battles two years from now when, on January 3, 1937, the Fifty-Second Legislature will convene. Reference to back files of California and Western Medicine will show that at every such legislative session several hundred proposed laws, involving public health and medical practice, are offered by Senators and Assemblymen; and sometimes it is impossible to determine the sources and sponsorship of the bills. A few measures always contain provisions of special danger to medical practice, and these necessitate much alertness and effort to keep them from going on to legal enactment. The work entailed in such instances is far greater, if the Senate and Assembly contain groups or blocks antagonistic to scientific medicine.

It is of paramount importance, therefore, that every component county society should impress upon all members the desirability of taking a proper interest in civic and political matters, and of maintaining the most cordial personal relationships with hold-over Senators and Assemblymen; and also, when the primary elections of 1936 are held, of determining, beforehand if possible, for what candidates, in every assembly and senatorial district of the State, the influence of the organized medical profession should be given. To attain these ends in efficient manner—especially in the larger cities which have more than one assembly district—every physician should be notified by his county society in what assembly district he lives, and who are the medical captains and lieutenants of that district. Each medical captain might then well call, in ample time before both the primary and final elections, one or more informal meetings of the physicians in his district to discuss general policies and to decide, if desirable, what lay assembly and senatorial candidates should be supported. Effort so expended would bring large dividend returns in public health endeavors: because in that manner the attitude of practically every legislative candidate could be made known, and should organized aid be tendered him he would, naturally, reciprocate if elected by granting his support and kindly hearing on matters of public health and medical practice. Many of our difficulties in legislative matters, it will be agreed, are due to the fact that we do not make ourselves heard, or our influence felt, until after the legislators have been elected. That, however, is not the procedure followed by industry and labor.

Organized medicine asks for no unfair or improper public health or medical practice laws, and yet it is as fully and even more justified in presenting a united and intelligent front for measures it deems vital than are industry and labor when they exert their influence on behalf of special material interests. Good citizenship implies active support of laws designed to promote the general good, and carefully considered public health legislation certainly comes under that head. Members of the medical profession owe it to themselves, their calling, and to the public to live up to their civic obligations by taking and maintaining that interest in politics which will lead to the most beneficent results for everybody.

To properly organize the medical profession in every assembly and senatorial district of the State is no small task, and needs time. County Society Committees on Public Policy and Legislation are urged to take up the study of their respective communities, and to select subcommittees for each district which would tabulate the members living in each district: so that prior to the primary elections in the summer of next year the preliminary work, for efficient and active coöperation, will have been completed. In every county society are members who are willing to do their part in this laudable work, and they should be given an opportunity to render that service which the Association so needs.

NEWSPAPER PUBLICITY ON THE C. M. A. SURVEY OF SICKNESS INCIDENCE

Medical Publicity in Lay Publications.—When groups of physicians meet to discuss informally matters of common interest, the thought is not infrequently expressed that the profession today would have fewer medico-economic problems if lay editors had a better understanding both of scientific and ethical medicine, and of the vast amount of altruistic service rendered for the public by physicians everywhere. On such occasions regret is usually emphasized that the space given to stories or items having to do with medical activities and practice, as printed in the periodical and daily lay press, is in almost direct proportion to the sensational or unusual nature of the topics. A conservative presentation of important public health problems, or of scientific matters, is only occasionally seen in newspaper columns.

This exploitation of the spectacular by lay editors is not to be wondered at, for modern newspaper and even periodical publication having become tainted for so many years by contact with "yellow journalism," editors have learned how subscriptions fall off (and with them advertising and its income, also) if readers are not given the kind of stories they prefer. Many physicians fail to appreciate the heavy printing and other costs involved in the publication of periodicals and newspapers, and that profit is dependent almost entirely on the receipts from advertising, usually decidedly conditioned by the number of subscribers. On that account, editors are most anxious to secure the good will of readers by printing the kind of news that readers want, and in the style they most prefer. When it is remembered that many physicians fail to consistently read much of the literature of scientific medicine, it is not to be wondered at if lay citizens show little taste or interest for solid matter of the same type. Editors know this and govern themselves accordingly.

Nevertheless, it is unfortunate when the elements of sensationalism or looseness in portrayal spoil what might have been an equally good story, had it been aptly and accurately told.

* * *

How the California Medical Association Contribution for a Sickness Survey Was Credited to Private Citizens.—An example, showing how far half-truths can go in the lay press, and in what strange places such news can crop out on the printed page, is that which came to our attention on our return from the American Medical Association meeting at Atlantic City, by steamer via the Panama Canal. Each day a four-page copy of the *Ocean Press,* served by the United Press and the R. C. A. News Service, was distributed to passengers. On the seventh day of the westbound voyage, beneath the editorial masthead of the June 24 issue, was printed a United Press dispatch from Sacramento under the caption, "State Studies the High Cost of Being Sick," and from this article we quote the following paragraphs (the italics being our own):

> "A working man in poor health is no more desirable than a working man on relief, California legislators believe.
>
> "State health insurance, therefore, has become one of the principal economic problems which the State Legislature hopes to correct.
>
> "An unsalaried legislative commission recently completed a two-year investigation of 'the high cost of sickness.' *The survey cost more than $100,000, mostly in contributions from public-spirited citizens.* Many of the findings and recommendations of the Commission will be incorporated in pending health insurance legislation."

* * *

But the Funds Were Supplied by the California Medical Association and FERA.—A perusal of the above, and particularly the sentence in italics, reading "The survey cost more than $100,000, mostly in contributions from public-spirited citizens," should make members of the organized profession of California, who know that some $36,000 of that amount was drawn from the treasury of the California Medical Association (the remainder being granted by the FERA through the California State Board of Health), wonder why so well-known a news agency as the United Press should have been guilty of so glaring an error. For not one penny expended for this California survey, so far as our personal knowledge goes, came either from private citizens or from State funds, and why credit should be given to others than those to whom the thanks are honestly due is beyond our ken.

* * *

How Such Stories Start.—However, when all has been said, perhaps we physicians, rather than merely the reporters and editors, are partly to blame. One has only to read the reports in the

April 12, 1935, issue of the *Senate Daily Journal* of the California Legislature, to note how little appreciation was expressed to either the California Medical Association or its Committee of Five, in contrast to that so loud-voiced for the labors of the then Senate Interim Committee.

* * *

Glaring Error of Assemblyman Dewey Anderson.—And if that be not enough, read and reflect on the following paragraphs of the resolution offered on May 18, 1935, by Assemblyman H. Dewey Anderson of Santa Clara County, creating an Assembly Interim Committee and printed in full on page 472 of the June issue of CALIFORNIA *and* WESTERN MEDICINE:

> "WHEREAS, The development of more adequate health services at rates within reasonable reach of self-supporting individuals and families of small and moderate incomes is essential to promote the comfort, health, safety, economic security and general welfare of the people of the state of California; and
>
> "WHEREAS, The committee appointed by the Senate April 19, 1933, composed of Senators Williams, Tickle, Difani, and its coördinator secretary, Celestine J. Sullivan, LL.D., ***have performed a distinguished public service by devoting two years of disinterested and arduous work, at their own expense,**** to the study of health insurance and the investigation of the high cost of sickness and the preparation of a very valuable report, published in the ***Senate Daily Journal,*** April 12, 1935. . . ."

We have been told that Assemblyman Anderson was a former faculty member of Stanford University, and that he is even the possessor of a doctorate degree. His own personal and official citation of his life work, as given in the *Assembly Daily Journal,* is that of a "sociologist and an educator." We know, further, that he has asserted a deep interest in sickness insurance legislation by his introduction of Assembly Bill No. 1097. Yet, in spite of his academic background, which should have made for accuracy in the collection of facts and their proper expression, the doctorial gentleman, in the resolution offered for an Assembly Interim Committee, writes in loosest terms of the source of funds by means of which the California surveys of 1934 and 1935 were really made. This license, neither even poetic nor academic, in a matter of such importance may well lead members of the California Medical Association to ask themselves what further funds of the Association's reserve resources, so slowly gathered during its more than seventy-five years of fruitful existence, should be spent to puff lay citizens into seeming greatness, while the real donors, the toilers of the medical profession, remain unhonored and unsung.

* * *

In This, as in Other Things, Truth Should Be Told.—We trust these comments will not be misunderstood. We do not believe that members of the California Medical Association are peeved, but we do think they have sufficient love and respect for factual data to wish the simple truth to be spoken; and that they have enough pride in the part their Association has taken in these recent studies to believe that its members, and none other, should receive credit for what has been done. And this pride and this wish are more than justifiable when one considers that this survey of sickness incidence in California has been carried out at a time when the treasury of the State of California was so depleted that it could not supply any funds for the work.

IMPORTANCE OF ANNUAL SESSION MINUTES OF THE HOUSE OF DELEGATES AND COUNCIL

Stenographic Reports of Annual Session Minutes are Printed in This Issue. — In the current issue, on pages 53, 55 and 91, are printed the minutes of the House of Delegates and Council meetings held during the recent annual session at Yosemite National Park. For the first time, through utilization of special stenographic service, it is possible for the official JOURNAL to print, word by word, the proceedings and discussions which took place when the House, as the supreme legislative body, was considering the business of the Association. It is possible, therefore, for members who were not in attendance at Yosemite to visualize what was done, and through perusal of the minutes to know what proposals were made and what policies were adopted.

* * *

Why Minutes Are Worthy of Perusal.—Organized medicine in the Golden State would be greatly aided if practically all members of the California Medical Association would take the time to at least hastily scan the official minutes. For the members of the House of Delegates and the officers of the Association can best carry out the wishes of the membership, when the members not only realize what are the problems which face the Association, but indicate, to their representatives in the House and Council, their own opinions and the reactions thereon.

* * *

Every Physician Is Obligated to Support Organized Medicine. — No present-day practitioner of medicine, no matter what his scientific attainments or ambitions may be, has the right to absolve himself from the responsibilities he owes to his profession, through non-support of efforts designed to protect those basic elements of medical practice upon which his own welfare and that of his fellows equally depend. Indeed, this obligation, to stand shoulder to shoulder with those other physicians who have aligned themselves for service in the ranks of organized medicine, becomes the greater in proportion as an individual physician has attained more than average success. It should be distinctly understood by all, that organized medicine is not political medicine, even though those who bear most of its burdens usually have a good understanding of political values in civil life. It is well to remember that organized medicine is that expression of healing-art practice by means of which scientific medicine is better able to attain its ends; and on that account those who actually or supposedly have dedicated themselves to special scientific advancement should appreciate that they also must be interested in organized medicine in common with all other fellow physicians who likewise practice scientific medicine; but who, in addition, feel the urge and do their parts when called on to support organized medicine in what it hopes to accomplish. Scientific and organized medicine are part and parcel of one whole, each a complement to the other, each necessary to the other, and both essential, if the highest types of scientific advancement and healing-art service are to be realized and made possible for fellow citizens.

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* Italics our own.—Editor.

AMBASSADOR EDGE'S PLACEMENT OF MEDICAL PRACTICE IN THE "SOCIAL SECURITY PROGRAM"

Address of Former Ambassador Edge at Atlantic City.—At the joint meeting of the American and Canadian Medical Associations held at Atlantic City on May 11 last, the Hon. Walter Evans Edge of New Jersey, former United States Ambassador to France, was one of the speakers; addressing the assembly, according to the *Atlantic City Press,* as follows:

> "Another speaker, Walter E. Edge, former Ambassador to France, told the physicians that world problems would have long ago been solved had the achievements of statesmen measured up to those of the medical profession.
>
> "After briefly alluding to the New Deal program, Mr. Edge continued: 'If one makes even a cursory examination of the pending so-called "Social Security Program," you will note suggestions of state or national control in many of its provisions. When one considers the responsibility of the health of the nation, certainly that should be one activity that the politicians should let alone. These new ideas of state medical practitioners to take the place of the independent doctor appeal to me not at all.'
>
> "After reviewing some of the achievements of the medical profession, he said: 'The voluntary service of the medical profession, of course, has no parallel in and will never receive the real appreciation it richly deserves. If statesmen could cure a few of the ills of the body politic in even slight comparison to the scientific advances you have brought about in physical cures, the world long ago would have solved many of the problems which affect us today.'"

* * *

Ambassador Edge's Advice Is Commended to the Consideration of Certain Lay Propagandists.—The above thoughts, coming from an American statesman of such prominence, are respectfully called to the attention of those lay persons, both in civil and political life, who may find themselves possessed by an urge to solve, through statutory enactments as yet untried in America, some of the economic and sickness problems related to certain social welfare needs.

* * *

The Medical Profession Has Always Cared for the Poor.—When one stops to consider that from one end of the United States to the other, physicians have at all times met their altruistic obligations to their lay fellows in far greater amount and proportion than can be claimed for any other profession or vocation; and that, in these days of economic stress and strain, in spite of their own financial hardships, they are continuing to give most generous service to the poor, it cannot be construed as unreasonable or improper conduct when the members of the profession scan closely the past careers and motivating forces and ambitions of some of the lay individuals who presume to have special knowledge in medical relief work, and who have taken it upon themselves to outline the paths along which the many thousands of licensed physicians should carry on medical practice in the future.

* * *

The Experience of Physicians as Against the Theories of Propagandists.—The members of the medical profession do not claim that their viewpoints on sickness relief are infallible; but by and large, they do believe, and with right—because of close-up, first-hand and more accurate and comprehensive understanding of the subject—that, other things being equal, the conjoint opinion of physicians should have as great and more merit than that of a handful of lay theorists and propagandists who, self-constituted in their imaginary leadership, are quite insistent that the plans they outline should be followed by medical men.

* * *

The Lay Propagandists May Now Turn Their Forces on Legislatures.—The pressure to which, in recent years, the medical profession has been subjected by some of these lay propagandists and publications (now that they have found that the medical profession cannot be easily moved to approve illy-matured plans or laws on sickness relief for low-bracket income groups of our population) will probably, in the days to come, be exerted with even greater force upon members of our legislatures, in the hope of securing certain legal enactments under the guise of sorely needed medical relief, even though the medical profession is opposed to the methods therewith submitted.

* * *

The Exaggeration of Sickness Hardships.—It is well to keep in mind that there has been much exaggeration in the portrayal of isolated cases of unhappy social and economic conditions associated with unforeseen sickness; such special instances being used only too often to lay down premises from which general conclusions may be drawn that would favor the institution of the social and sickness relief procedures advocated by such proponents.

* * *

Time Has Arrived for Some Clear Thinking. Is it not time that clear thinking and plain talking should again become the order of the day? The handicaps arising from unexpected illness no one will deny, but it is well to remember that in many, if not most of such cases, the resultant hardships are not directly due to such illness but, rather, are dependent on underlying conditions such as poverty and other social and economic factors. The causes of poverty and of faulty habits and living should, therefore, first be sought, and remedial legislation should be aimed at these fundamental conditions. Such a method of approach would be more rational than to seek to secure an alleviation of these faults of present-day civilization through laws which, if hastily drafted and ill-adapted to American conditions, would upset and demoralize those methods of medical practice that, step by step, have gradually come into existence; largely through the mutual coöperation, on the one hand, of a profession whose members surpass all others in its altruistic endeavors, and, on the other, of a lay public that was responsive to and appreciative of the service rendered its members by practitioners of the healing art.

* * *

Legislators Should Think and Investigate Propaganda from Lay Sources.—Legislators are, therefore, amply justified when they measure and carefully investigate the claims of lay propagandists, who, self-appointed in many instances, assume to be the real fountain heads of knowledge as to the manner in which medical practice should be carried on, both regarding economic and healing-art standpoints. The sound and analytical conservatism that has played so important a part in the real advances of scientific medicine can be used with equally good results in the diagnosis and evaluation of methods of treatment of social welfare and sickness-relief problems. Let us not be carried off our feet in favor of unwise legislation that would lower scientific medicine to cultist or mechanistic standards.

EDITORIAL COMMENT*

ACUTE MERCURY POISONING

In the *Journal* of the American Medical Association, No. 16, April 21, 1931, Sanford M. Rosenthal published some experimental and clinical researches showing that the use internally and intravenously of "sodium formaldehyde sulphoxalate" has a marked antidotal effect in poisoning by mercury bichlorid, in both dogs and human beings.

Encouraged by the results of his experiments upon dogs, he was led to extend the use of the above drug to ten persons who had taken large doses of mercury bichlorid with suicidal intent. All of these patients came under treatment within two hours or less, and all recovered, as did nine of the twelve experimental dogs.

The method which he suggests for practical use as an antidote for mercury poisoning is as follows:

Gastric lavage is done with a 5 per cent solution of the "sulphoxalate" in distilled water, 200 cubic centimeters of this solution being left in the stomach.

Following this, 10 grams of "sulphoxalate," dissolved in 100 to 200 cubic centimeters of distilled water, is introduced intravenously, 20 to 30 minutes being required for the injection. Another intravenous injection of 5 grams of the same drug, in similar dilution, may be administered after 4 to 6 hours in severe cases.

The usual deleterious effects of mercury on the kidneys were largely prevented. The presence or absence in the blood of the "sulphoxalate," as shown by the precipitation of mercury in a bichlorid solution, will furnish an indication as to whether or not further sulphoxalate is needed, 3 to 5 hours after the first injection.

When a colitis results from the mercury poisoning, the author advises high colonic irrigations, with a 1 to 1,000 sulphoxalate solution.

Commercial "sodium formaldedyde sulphoxalate" is impure and should not be used intravenously. The purified product can be obtained in ampoules from the manufacturers of "neoarsphenamin".[1] The solution in distilled water must always be freshly prepared.

214 South Lafayette Park Place.

Charles Lewis Allen,
Los Angeles.

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[1] Merck & Company, New York. The Diarsenal Company, Inc., Buffalo; The Dermatological Research Company, Philadelphia.

Sleep.—There are a great many persons who habitually assume a last-resort attitude toward the bedroom. For these persons business, recreation and the indulgences of life all maintain a priority over sleep. If will power and inclinations were the controlling forces of existence, such a position might be justified. Unfortunately, however, such is not the case.

In spite of man's progress and great scientific achievements, the fact remains that so far as his body is concerned, he is just as dictatorially controlled by nature as he was in the Garden of Eden. Old Dame Nature at that time established some very definite laws regarding bodily requirements; and while, of course, she gives man his head as to his obedience to them, she invariably exacts her price if her mandates are consistently violated.

Only the other day, for instance, a learned scientist whose intellect was the envy and admiration of many, so forgot first principles that he worked day and night developing a mathematical formula. A sudden breakdown was the result. And in forty-eight hours he was dead.

While this is an uncommon case, it nevertheless typifies the general snubbing that nature receives by many who in their absurd conceit imagine that the basic living rules can be habitually broken without penalty.

Sleep is one of the prime essentials in the animal kingdom; and this is true whether the animal be a cat, a dog, or well-educated man.

Of course there is a very limited number of persons who thrive on less sleep than others. However, generally speaking, the majority of mature persons require eight hours of sleep each night. And younger persons—many of whom, alas, do not get it—require more.

It may be somewhat of a blow to one's pride, but it will be a boon to one's life to realize that nature, and not man, possesses the final authority on the sleep question.

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* This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section (Adv. pages 2, 4 and 6).

CALIFORNIA MEDICAL ASSOCIATION

ROBERT A. PEERS........President
EDWARD M. PALLETTE........President-Elect
FREDERICK C. WARNSHUIS........
Secretary-Treasurer and Associate Editor for California

GENERAL SESSION PROCEEDINGS

Sixty-Fourth Annual Session—California Medical Association

FIRST GENERAL MEETING

Monday Morning, May 13, 1935

The first general meeting of the California Medical Association was held in the Pavilion of Camp Curry, Yosemite National Park, on Monday morning, May 13, 1935, at 10 a. m.

The meeting was called to order by the president, Clarence G. Toland of Los Angeles, and the program was opened by singing "I Love You, California," led by Mrs. Fred Clarke of Long Beach.

President Toland: This is the beginning of the sixty-fourth annual meeting of the California Medical Association.

The secretary of the California Medical Association has some very important announcements to make. (Doctor Warnshuis, the secretary, made some announcements.)

President Toland: The California Medical Association this year has been unusually fortunate and very much complimented. On the rostrum today we have with us a past president of the American Medical Association and the president-elect of the American Medical Association.

The first speaker on the program today is Dr. James S. McLester of Birmingham, Alabama, president-elect of the American Medical Association.

It is with great pleasure that I introduce Doctor McLester. Doctor McLester.

Remarks by Dr. James S. McLester

Dr. J. S. McLester: In bringing to the medical profession of the great State of California the greetings of the American Medical Association, I should like to make you feel that these greetings are genuine, and that they come from the heart.

The trustees and the officers of the American Medical Association are keenly interested in everything that touches the welfare of the American physician, and they are endeavoring to exercise a leadership that is effective and of the kind that you want. They realize fully, perhaps better than you, that the American Medical Association can have no identity separate and distinct from that of the several state medical associations, and that it derives its mandate for leadership solely from its constituent state associations.

In the exercise of this mandate the American Medical Association has before it at all times one main objective, in comparison with which all other objectives sink into relative insignificance, and that is the economic welfare and the professional independence of the American physician. They hope that in their efforts toward this end they will always have your whole-hearted support.

We believe that you can take pride in the accomplishments of the American Medical Association, because its efforts on behalf of the medical profession and the American people have met with a large measure of success; and this Association in turn can warmly congratulate you of California upon your splendid achievements, and upon the fine type of men that comprise your membership.

It is with great pleasure, therefore, that I come to California to bring you the greetings and the good wishes of the American Medical Association.

President Toland: Thank you very much, Doctor McLester.

Address of Dr. Clarence G. Toland

You will notice that the next address listed on your program is probably what might be called a little swan song. My address, as your retiring president, has as its subject the topic, "Organized Medicine in California—Some of Its Problems."*

Address of Dr. E. Starr Judd

President Toland: Now we have the great honor of hearing one of the greatest men probably this country has ever produced. I will most likely be shot when I get him back to the cottage, because he does not like anybody to say much about him, but the main thing is that you do not have to say much. We all know Doctor Judd, and we know what he has done, and that he is a great friend of everybody, the lay as well as our medical profession.

It is a great pleasure for me to introduce my good friend and real associate in many ways, and my teacher, as the next speaker. He is going to speak on the subject, "Research in Medicine—Practical Applications." Dr. E. Starr Judd of Rochester, Minnesota.

Doctor Judd: Mr. President and Doctor McLester: There are many things I might tell you about my being his teacher. They probably would not register so well, I think.

I remember very well one time when I came back from a trip to the East, where I had seen working a surgeon who impressed me very much. "Bill" Toland was working with me, and Tom Joyce. I was a pretty small fellow in stature, compared to those boys. I kept repeating this surgeon's name. I mentioned it several times through the day, about how he did not allow blood to flow around the field, and all that sort of thing. Finally, these two fellows moved me over in the corner and said, "If you mention that fellow's name again, you won't live very long." That is true, too.

Doctor Judd then read his paper, "Research in Medicine—Practical Applications."*

President Toland: I wish to take this occasion to thank Doctor McLester and Dr. E. Starr Judd for their contributions this morning.

The meeting is adjourned until two o'clock this afternoon. The meeting recessed at 11:15 o'clock.

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SECOND GENERAL MEETING

Tuesday Morning, May 14, 1935

The second general meeting of the California Medical Association was called to order by President-Elect Peers at 11:20 a. m.

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* President Toland's address was printed in the June issue, page 409.

* The address by Doctor Judd was printed in the June issue, page 412.

Chairman Peers: Doctor McLester, Distinguished Guests, and Members of the Association: It is certainly a great pleasure and a great honor for me to have the privilege of introducing to you this morning such distinguished guests. I know the weather is beautiful outside, but I was going to tell Doctor Sprunt—I do not need to tell Doctor Whipple, because he is a former Californian—this is our usual weather. If our guests and members stay outside longer, they will perhaps think this is unusually beautiful weather for California.

The hour is late. We want to devote all the time available to listening to our guest speakers, so I will be very brief in introducing them.

Doctor Whipple, the first speaker, as you know, is a former Californian. He was dean of the Medical School at the University of California. He was the first director and really the organizer of the Hooper Foundation, and we of California have more than ordinary pleasure in remembering that this great work which he accomplished was really started at the University of California.

It is not necessary for me to say more about the Doctor. He is known not only throughout this country, but throughout the world. It is no secret, because you have seen it in the daily press and in the lay magazines, as well as in the medical journals, that his fame has extended even so far as the northern Scandinavian countries.

It is indeed a pleasure and an honor for me to introduce to you this morning Doctor Whipple, who is now the professor of pathology and the dean of the Medical School of the University of Rochester. The topic of his address is, "Anemias—Experimental and Clinical."* Dr. George H. Whipple.

Address of Dr. George H. Whipple

Chairman Peers: Thank you, Doctor Whipple. I merely wish to assure you again, sir, how much we appreciate the privilege of having you here to address us.

Our next speaker is not a Californian, but he is an American citizen, and, in spite of what some of our eastern brethren think of us after what took place in Los Angeles in the early part of March, California is still a part of the Union. So we are equally proud of our good American from Baltimore, who is going to speak to us next.

Doctor Sprunt needs no introduction to this audience. He has been associated with Doctor Barker at Johns Hopkins Medical School for about twenty years, I believe. He is associate professor of medicine at that school. He has written interestingly and well on pathological subjects. He was a pathologist before he took up internal medicine. He is well acquainted, as you all know, with all the different phases of work connected with internal medicine, and it certainly is a great privilege for us to have him with us this morning. Doctor Sprunt will speak to us on "The Medicinal Treatment of Hepatic and Biliary Disorders." Dr. Thomas P. Sprunt.

Address of Dr. Thomas P. Sprunt

Doctor Sprunt: Mr. President, Ladies, and Gentlemen: I am being optimistic today, as many of us have learned to be in the past few years, and I am assuming that your appetite for liver was whetted yesterday and not sated by the diet.

Doctor Sprunt then read his paper, entitled "The Medicinal Treatment of Hepatic and Biliary Disorders."†

Chairman Peers: Thank you, Doctor Sprunt. I wish to assure you also of how much we appreciate the privilege of hearing you, and on behalf of the California Medical Association I want to thank both of you gentlemen for coming here. We hope you enjoy your stay in California, and that you will come back again. Thank you very much.

The meeting recessed at 12:45 p. m.

THIRD GENERAL MEETING

Wednesday Morning, May 15, 1935

The third general meeting of the California Medical Association was called to order by President Toland at 11:10 a. m.

President Toland: The program this morning is one on medico-economic problems.

We have had the honor during this meeting of having the president-elect of the American Medical Association, Dr. James S. McLester, with us.

It is with great pleasure that I introduce again Doctor McLester, who will speak upon "Profession's Economic Responsibility." Dr. James S. McLester.*

Address of Dr. James S. McLester

President Toland: Doctor McLester, we thank you very much.

The next paper, by Deputy State Attorney-General Lionel Browne of San Francisco, is entitled "The Right to Regulate, and the Reason for Regulation of Professions by the State—Methods Adopted for Regulation and the Attitude of Regulatory Bodies and the Courts with Relation Thereto." Mr. Lionel Browne.†

Address of Hon. Lionel Browne, Esq.

President Toland: Thank you very much, Mr. Browne.

The third paper on this morning's program is that by Dr. Paul A. Dodd, director of the California Medical Survey. Doctor Dodd is connected with the economic department of the University of California at Los Angeles. You all know about the work, and you will be interested in his subject, "Pertinent Facts Uncovered by the State Survey of Medical Services." Dr. Paul A. Dodd.†

Address of Paul A. Dodd, Ph.D.

Doctor Dodd: I should like at this time to express my sincere appreciation for the occasion which brings me before you this morning. I have indeed appreciated very much the contact I have had with your Council and with the members of the Committee of Five, and wish to tell you at this time that I count it a high privilege indeed to be able to serve you in the small way in which, perhaps, I have.

I am taking for granted that most of you are very well familiar with the study that has been under way for some ten months in the State, and which is drawing to a rather fast conclusion.

Before I turn to the reading of the paper, I should like to express also my individual gratitude to every one here who has coöperated as a member of your profession in sending in answers to some of the questions asked you in connection with the carrying out of this survey. I need only mention here that we have been able to contact some 21,000 families scattered in twenty-six different counties, and representing 1,000 different communities, villages and cities of the state of California. In addition to that, we have received returns to date from about 3,500 doctors of medicine, about 700 doctors of osteopathy, 2,000 dentists, and approximately one-half of the hospitals and public health agencies of the State. This, then, has served as a basis for the summary and conclusions I would like to present for your consideration this morning.

I might add that we have been particularly careful in every way known to us about presenting information that was quite accurate and representative of conditions throughout the State. (Doctor Dodd read his paper.)

President Toland: Thank you very much, Doctor Dodd, for your talk to us; I am sure the membership as a whole appreciate it.

Continuing, President Toland said: The next paper on the program is that by Dr. Harry H. Wilson from

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* Doctor Whipple's address on "Anemias, Experimental and Clinical," is printed in this issue, on page 1.

† Doctor Sprunt's paper is printed on page 5 of this issue.

* The address of Dr. James S. McLester will be printed in a later issue of California and Western Medicine.

† The addresses of Deputy State Attorney General Lionel Browne and Dr. Paul A. Dodd will be printed in later issues of California and Western Medicine.

Los Angeles, entitled "What Is the Remedy?" Dr. Harry H. Wilson.*

Address of Dr. Harry H. Wilson

President Toland: We are adjourned.

The meeting adjourned at 12:45 p. m.

HOUSE OF DELEGATES MINUTES

Sixty-Fourth Annual Session—California Medical Association

FIRST MEETING

Monday Evening, May 13, 1935

The first meeting of the House of Delegates of the California Medical Association was convened in the Camp Curry Pavilion, Yosemite National Park, California, on Monday, May 13, 1935, at 8:30 p. m., with the speaker, Edward M. Pallette of Los Angeles, presiding.

The Speaker: The first report will be that of the Credentials Committee, Doctor Larson, chairman.

(Dr. E. Eric Larson read the report of the Credentials Committee.)

The Speaker: The secretary will call the roll.

The Secretary: Mr. Speaker, I hold in my hand the signed roll call of 129 delegates. I suggest that some delegate move that this constitute the roll call of the first session of the House of Delegates.

Dr. Daniel Crosby (Alameda): I so move.

Dr. F. N. Scatena (Sacramento): I second the motion.

The Speaker: It has been moved by Doctor Crosby and seconded by Doctor Scatena that these 129 delegates, whose slips Doctor Warnshuis holds, be seated as the delegates of this meeting. Those in favor say "aye"; opposed. It is carried.

The provisions of the Constitution and By-Laws having been complied with, a quorum of qualified delegates having responded to roll call. I now declare this House duly constituted.

House Committees

At this time the Speaker desires to announce the committees which have been appointed.

Reference Committee No. 1 on "Resolutions and on New and Miscellaneous Business—Dr. Loren R. Chandler (chairman), Dr. Fred N. Scatena, and Dr. Lowell S. Goin.

Reference Committee No. 2 on "Reports of Officers and of Standing Committees"—Dr. John C. Ruddock (chairman), Dr. W. W. Roblee, and Dr. C. Kelly Canelo.

Committee on Credentials—Dr. Eric Larson (chairman), Dr. L. P. Adams, and Dr. S. J. McClendon.

Most of you were present this morning at the general meeting in this room. Those of you who were not missed something. Our president made a most magnificent address, and it was received more cordially and with more of an ovation than I have before seen in a medical meeting anywhere. This ovation, I think, was due in part to what Doctor Toland said and, in part, to Doctor Toland's popularity. It was also in recognition of the wonderful services he has given the California Medical Association during the past two years.

Doctor Toland does not have a set speech for tonight, but I am sure he has something to say to us. This is a little different occasion than this morning. This is a sort of family gathering. We are men who have been meeting year after year. We are all more or less familiar with the details of our organization, of our problems, and we have asked Doctor Toland to speak to us from his heart tonight. Doctor Toland. (Applause.)

Remarks by President Toland

President Toland: Mr. Speaker and Delegates of the California Medical Association: I do not know just what to say to you, except that none of you will ever realize in your entire life how much I have appreciated having been one of the officers of this grand organization, the California Medical Association. It is a real honor, and the few little things I have tried to put in the official Journal in the last few weeks simply express to you how I feel. You know well enough that what I have done has not accomplished very much, except that I met so many marvelous fellows in every town where we have gone. In every community where there is a county medical society, you will find two, three, four, or six men who are willing to take the brunt and do the work for all the other fellows, and they love to do it. I want you to remember that one thing, that they are willing to do anything their associates would like to have them do. You cannot help being impressed when you see that kind of feeling. The other thing that was so good about it, so interesting, was the fact that the fellow members in these component county societies had confidence in the men who were willing to do the work.

I want to say further that we are a family and there is no reason in the world why the family cannot go right along and still accomplish great things for the California Medical Association, as you have done before.

Next Wednesday night a real fellow is going to be inaugurated as president of this Association, Dr. Robert A. Peers of Colfax. I had the pleasure of riding up through the State here with Doctor Peers (we call him Bob), and in every community where we visited there was some individual among the profession who had worked for Doctor Peers in his sanatorium—"just below the snow," you know, and "just above the fog," is where he is located, but the day we were there it blew, stormed, snowed, and hailed. (Laughter.) The thing that impressed me is that every one of these fellows are still friends of Bob. They come to him for advice, and he gladly gives it. Bob today holds the record for being secretary of his county society probably longer than any other secretary in the state of California. (Applause.) With the honors that have come to Bob all up and down the line in his particular specialty, and what we have extended to him, he sticks by his boys at home. That means only one thing—that Bob Peers is a man at heart and will always do the right thing for everyone connected with medicine, and he also has just as much in his heart for the welfare of the people of this State.

There is one other thing I want to say something about, and that is that the postgraduate conferences have been started this year. We recently had a meeting in San Bernardino County, and 125 men attended. It began at four o'clock in the afternoon, and ended about ten-thirty. The boys who were on the program willingly went out and gave their talks, and they tell me they were real talks.

Then on the sixth of this month a conference was held in Riverside County at Arlington. We went to the Sherman Institute in order to have the proper meeting hall. There were at least one hundred men at this meeting, although it followed immediately the meeting of the Southern California Medical Association, and was held just a few days before the California Medical Association.

What does all this mean? It means that the men are all interested in this postgraduate conference idea, and I hope every man who is asked to speak at these conferences will fulfill his duty, because all of his friends in the California Medical Association are extremely interested.

We have many standing committees, and the boys have all worked hard and have done their duty. There are two in particular—one, the Committee on Public Policy and Legislation, and you know what its members have to do every year; and the Public Relations Committee, whose members have worked very hard. I want to compliment the chairman of every one of the standing committees for the real work they did, and I think the most interesting reading items in the April Journal are the reports of these standing committees.

The chairman of our Council is interested more than, I think, any of us can appreciate, even though we are sitting near him in Council meetings and in all kinds of committee meetings, in the California

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* The address by Dr. Harry H. Wilson will be printed in a later issue of California and Western Medicine.

Medical Association. He wants to see that the right things are done for this Association and its members, and when he does the right thing for this Association he helps out the entire State.

You can say the same thing for our general counsel. Recently, when there have been meetings of the special committee that was appointed at the special session of the House of Delegates in Los Angeles the early part of March, they put in hours and hours and hours trying to fix up something that would really be of benefit to everybody in the State of California. I hope you men really realize and appreciate the amount of work that Doctor Kelly and all the men on the Committee of Six have done for you. (Applause.) On top of that he has had to take some of his own medicine. He popped right out of bed to come up here and go to work again. He could not attend any of the meetings today because there are so many things to get ready for the House of Delegates meetings.

I wish to say again that three of us—Mrs. Toland, her mother, and myself—greatly appreciate the honor you have particularly conferred upon me this year. Thank you very much. (Applause.)

Reports Printed in Pre-Convention Bulletin

Dr. E. Vincent Askey (Los Angeles): In view of the many things demanding our attention, and in order to conserve time, and in view of the fact that the reports of our officers and committees have been printed in our official journal, California and Western Medicine, and also in the program reprints of this meeting, I move that these reports be referred to the Reference Committees without reading tonight.*

The motion was regularly seconded.

The Speaker: Some of the reports have been printed; some have not. Those that have been printed are those of the secretary-treasurer, the editor, the general counsel, the Public Relations Committee, the Cancer Commission, the trustees, and reports of standing and special committees.

It has been moved and seconded that the printed reports be referred to the proper committees without reading at this time.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried. These reports which I have named will all go to Reference Committee No. 2, of which Doctor Ruddock is chairman.

Annual Report of the Council

We will now have the annual report of the Council by Doctor Kelly.

Dr. T. Henshaw Kelly read the report of the Council.†

The Speaker: The report of the Council as read, with the resolutions contained therein, is referred to Reference Committee No. 2.

Report of General Counsel

We will now have the report of the general counsel, Mr. Hartley Peart. (Applause.)

Mr. Hartley F. Peart: Mr. Speaker and Members of the House of Delegates: The year just closing, as shown by the report of the Council, has reflected some of the many activities in our department. I will just touch on a few of the more important.

Some chiropractors thought they could obtain by court decision an expansion of their licenses to practice, so two suits were instituted, the case of The People against Steele, and particularly the case of Evans against McGranahan.

In this case of Evans against McGranahan, it was sought to show that by the existence of a contract the chiropractor was not performing what he had contracted to do; that inasmuch as chiropracty, under the Initiative which was adopted by the people, included what was taught in chiropractic schools, and as medicine and surgery were taught in those schools, therefore the license extended to medicine and surgery. The District Court of Appeal disabused the mind of the chiropractor in that regard and expressly excluded any medicine or surgery or osteopathy, as defined in the statutes, from the practice of chiropracty.

During the year, we had some work to do in connection with the election laws. I just mention it because at times we have to go a little rapidly in seeing that all the election laws are observed in these Initiative elections, which sometimes bring about unpleasantness if we are not very careful with the detail.

During the year we have reviewed and restated the constitutions and by-laws of a number of county societies. This is a work that might be followed by quite a number of the other societies, having in mind the recommendations made by the Council tonight and the next subject that I will touch on. With Doctor Warnshuis in the secretary's office, and close connection with Doctor Woodward of the American Medical Association, we have the benefit of some very up-to-date suggestions in connection with constitutions and by-laws for the societies.

We have had referred to us some very interesting questions of disciplinary procedure. There is a good deal of law on this subject. It pertains not only to medical societies, but to fraternal societies and to stock exchanges, as curious as that may be. The law is basic that the constitution and by-laws of a medical society constitute a contract between the member and the organization, and the principles set forth in the constitution and by-laws must be scrupulously observed. In addition to that, if the by-laws or the constitution are not clear on the subject, the law itself steps in and writes in some basic principles of fairness and equity. As one of the judges said in a medical society case in New York, "the law is particular to surround this type of legal operation with the same antisepsis that the doctors require in their operations."

We have had a lot to do with county hospitals. The case instituted in Kern County by the doctors there resulted in their obtaining a permanent injunction, through Superior Judge Van Zant, against the supervisors using the county hospital for other than indigent persons and the few specified classes which the supervisors are by law authorized to take into county hospitals. An appeal was taken by the supervisors and, pending the appeal, they petitioned the Supreme Court for what is known as a writ of supersedeas, that is, to suspend the operation of the writ until the case was determined by the Supreme Court. The Supreme Court, I am sorry to say, granted the writ of supersedeas in spite of all the argument that could be made against it, and we felt we had ample authority against it. That case is pending. Our brief is in, and it will be heard in the Supreme Court in the course of a few months.

This question of county hospitals is a very vital one, and I want to call your attention to these facts: The doctors and others in Kern County, with the very valuable aid and leadership of Attorney Alfred Seaman, undertook to stir up and start a freeholders' election for the adoption of a charter. A great deal of work was done in the perfection of a model charter for public health and welfare work in the county along proper lines. The charter was drafted, and then the freeholders' election was had, but the ticket supported by the doctors and by Mr. Seaman was not elected. A business man's ticket was elected, and the business men adopted a charter which the doctors in hospitals felt they could not support. They opposed the charter, and the result was an overwhelming victory for the doctors in hospitals, five to one or six to one.

This is not the only county where the charter question is up. Tomorrow an election is to be held in Butte County,* and a charter is proposed there which provides that the supervisors shall have the power to construct or establish or to acquire by condemnation hospitals and other necessary facilities to employ doctors, dentists, and nurses, and to provide medicine to the people without reference to indigency. This is State medicine on a county basis.

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* The reports of officers and committees were printed in the Pre-Convention Bulletin, in the April issue, pages 304 to 317.

† The report of the Council was printed in the June issue, on page 481.

* The proposed Butte County charter went down to defeat.

This is not the only county where this subject is coming up. I am reliably informed that there are eight more counties for which charters are now being discussed along the lines of the Butte County charter. Singularly enough, some of the persons very high in one of the departments of our state university are reputed to be very much interested in this form of charter.

We have in the legislature another angle to the county charter, and that is the Heisinger Bill, which Doctor Harris will tell you about in his report. Briefly, it is a bill which will authorize the supervisors, on the authority of 25 per cent of the electors, to establish hospital and medical insurance for the citizens of the county. In other words, the attention of all the county societies and all the men in the counties should be very closely riveted on any charter proposals, because the question of State medicine or individual medicine may be decided there for you without your having a word to say about it unless you are extremely alert.

During the year we have had a good deal to do with the corporate practice of medicine. That has been dealt with in the Council's report, so I will only touch upon it. The so-called hospital associations are extremely active, and they are very active now in the legislature. One new development has occurred which we have not seen before, and that is the intrusion in this field of an established, well-financed company doing ordinary insurance. Through the use of a very shrewdly drawn health and accident insurance policy, having every appearance of being nothing but an indemnity policy, we found what is in effect a medical and hospital service contract. This was called to the attention of the Association by Deputy Attorney-General Neal Cunningham. We succeeded in interesting the state bar, as well as the dental board, and together with the California Association those organizations appeared as friends of the court. Notwithstanding that, the Superior Court in San Francisco County granted a writ of mandamus against the insurance commissioner to compel him to approve these policies of this insurance company. The matter is now on appeal.

An interesting case came up during the year in Los Angeles County dealing with the question of anesthesia. The Council, at the request of Doctor Chalmers-Francis and others interested in Los Angeles, instructed us to appear in the case. It was tried in Los Angeles County, resulting in a verdict against the contentions of the specialists. This is now on appeal, and our opening brief is just being served and filed this week. We hope this decision will dispose of this long-mooted question.

We have had a great deal to do, of course, with legislation. Every second year our office becomes a sort of medico-legal adjunct of the Legislative Counsel Bureau of the State Legislature. You will hear a great deal about that from Doctor Harris, so I am not going to touch upon it any further.

We have been engaged, as Doctor Kelly reported, on the Health Service Insurance Act almost continuously since the committee started its labors.

Thank you. (Applause.)

The Speaker: This report of the general counsel is referred to Reference Committee No. 2.

Report of the Committee on Public Policy and Legislation

We will now hear from the Legislative Committee, Dr. Junius Harris.

Dr. Junius B. Harris (Sacramento): Mr. Speaker and Members of the House of Delegates: Owing to the fact that so many of our problems are being considered today and tomorrow in the legislature, and I have been very busy on the long-distance telephone, I think it would be of more advantage to you all if I would read my report Wednesday night, bringing it right up to date and right up to the minute. With your permission, Mr. Speaker, I will defer the reading of my complete report until Wednesday night, because today we have and tomorrow we will have very vital matters up before the legislature, and our representatives who are taking care of matters during my absence will report to me on both days.

The Speaker: If there is no objection, Doctor Harris will be given permission to defer his report until Wednesday evening. There being none, permission is so granted.

Report of the Committee of Five

The next order of business is the report of the Committee of Five, which was appointed to make a survey of California sickness incidence by last year's House of Delegates. Doctor Molony is chairman of the Committee of Five. Doctor Molony.

Dr. William R. Molony, Sr. (Los Angeles): Mr. Speaker and Members of the House of Delegates: You will recall that at the Riverside session of the California Medical Association a resolution was passed commanding that a survey be made of health conditions of the State. Pursuant to that, the Committee of Five was appointed under this resolution and, as soon as possible after that, the committee began its work.

This report has been made in sections. A preliminary report was made at the special meeting of the House of Delegates in Los Angeles. This is not a final report, but rather is a progress report and, briefly, is that, financially speaking, the California Medical Association has advanced to the committee and the committee has spent approximately $31,000. And the Government, under the FERA organization, in conjunction with the California State Department of Health, has appropriated and we have spent approximately $59,000, making a total of $90,000 spent to date. The details of this expense I will not take your time to read, as it is all printed and will probably be placed in your hands along with the other portions.

Briefly, on the survey during the months of October, November and December, our field representative visited approximately 21,000 families in twenty-seven different counties of the State. During December and January, a recheck study was conducted in Los Angeles County covering one thousand families, or approximately 10 per cent of the total number originated were visited by survey representatives.

On the second visit a schedule similar to the original general field schedule was completed to enable the information obtained on the first visit to be checked. Usable professional schedules have been sent to the survey as follows: 3,206 from physicians; 639 from osteopaths; 1,846 from dentists. These samples constitute approximately one-third of each of these professional groups. Thus, the collection of data from families and from medical practitioners is complete. Two hundred hospitals, constituting about 50 per cent of the total number of approved hospitals in the state of California, have replied. Examination of the figures submitted by these institutions shows a great difference in the methods of accounting used in different hospitals. As a result, a representative of the survey is now making a personal visit to the larger hospitals of the State to gather information which may be uniformly handled and subjected to accurate analysis. These data, covering hospitals which contain from 50 to 75 per cent of the hospital business of the State, will be available at the end of May.

The material contained in the various wages have been subjected to analysis. The general field schedule, the mailing check, and the rechecked schedules, have all been edited and codified and the information obtained has been entered on Hollerith tabulating cards. A total of about forty thousand cards have been published representing information from the medical practitioners for use in the analysis of the distribution of medical facilities throughout the State. At the present time, a force of editors and coders is engaged in coding supplementary information on the general field schedule. These data are being entered on a second group of Hollerith cards. This work should be completed by the end of May.

This, in a general way, represents a very brief report of the activities of the committee. The survey has been completed; all the information is in. What remains to be done now is simply the analysis and coding of all the information from the various charts and schedules for whatever use the survey may be put to.

There has been a great deal of money spent. We have tried to spend it economically and efficiently. Of course, unless we had had the assistance of the Federal Government in making this survey, it would not have been as complete or as comprehensive as it has proved to be.

Whether or not the report will be completed depends entirely on the House of Delegates and the Council, whether they will spend any more money than has already been expended in this survey. I understand it will require approximately at least $3,000 more to complete the report. There is about $3,000 available from the Federal Government for that part of the work, but until that is all in and authorization is made to complete, the Committee of Five begs leave to submit this supplementary report at this time, and if and when more money is available they will be very glad to complete their work and finally submit to this House a complete report at the next session of the House of Delegates.

CALIFORNIA MEDICAL-ECONOMIC SURVEY
9535 Brighton Way
Beverly Hills
May 1, 1935

PROGRESS REPORT SUMMARY

I. Financial Report.
II. Collection of Data.
  1. Family studies.
    a. Field and mailing.
  2. Recheck.
  3. M. D.; D. D. S.; D. O.
  4. Hospital and clinics.
  5. Industry.
III. Preparation of Data for Analysis.
  1. Editing.
  2. Coding (rechecking).
  3. Punching.
IV. Tabulation of Data.
  1. Tables.
V. Final Report.
  1. Statistical analysis of tables.
  2. Principles involved.

I. *Financial Report.*

Expenditures—August 1, 1934, to May 1, 1935:			
Salaries:			
Full time staff, Administrative and office	$7,996.34		
Statisticians	2,474.41		
Field supervisors and visitors	3,538.57		
Professional coders, editors and machine operators	1,869.70		
Part time office help	712.23		
		$16,591.25	
District office expenses		319.95	
Furniture rental		785.00	
Machine rental		812.73	
Office rental		546.86	
Postage		2,463.12	
Printing		2,100.70	
Reports, books, etc.		89.69	
Office supplies		1,553.48	
Telephone and telegraph		734.79	
Traveling expenses:			
Meals	527.43		
Hotel	518.50		
Transportation (fare)	1,166.36		
Postage	39.81		
Telephone and telegraph	89.28		
Tips	50.35		
Supplies	46.73		
Miscellaneous	243.21		
Car expense	746.87		
		3,428.54	
Maps and field supplies		167.89	
Contingent expenses: (Insurance, freight, bonds, etc.		955.92	
Advances		100.00	
Total expenditures by California Medical Association			$30,649.92
SERA Government Appropriation:			
Original		$41,505.20	
Supplemental		13,920.22	
Additional supplement (approval pending):			
SERA labor	3,382.50		
Supervisors	275.00		
		3,657.50	
*Total SERA appropriation			59,082.92
			$89,732.84
Total receipts from California Medical Association		$30,400.00	
Total expenditures—August 1, 1934, to May 1, 1935		30,649.92	
Cash balance		$ 249.92	
Balance in bank, May 1, 1935—overdrawn		$ 499.92	
Petty cash fund on hand		250.00	
		$ 249.92	

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* NOTE: About $3,000 of the additional supplement still remains to be used from these government grants.

II. *Collection of Data.*

The methods used to obtain information regarding families and medical practitioners in California have been discussed in previous progress reports, as well as in the Preliminary Report of the Survey. The field work of the Survey is now complete. During the months of October, November and December, 1934, field representatives visited 20,603 families in twenty-seven different counties of the state.

During December and January a recheck study was conducted in Los Angeles County covering one thousand families, or approximately 10 per cent of the total number originally visited here by Survey representatives. On this second visit a schedule similar to the original General Field Schedule was completed to enable the information obtained on the first visit to be checked.

The Survey has also received, in response to letters sent out to families in districts not visited by field representatives, schedules from 2,149 families.

Usable professional schedules have been sent to the Survey as follows: 3,206 M. D.; 639 D. O.; 1,846 D. D. S. These samples constitute approximately one-third of each of these professional groups.

Thus the collection of data from families and from medical practitioners is complete.

Two hundred hospitals, constituting about 50 per cent of the total number of approved hospitals in the state of California, replied. Examination of the figures submitted by these institutions shows a great difference in the methods of accounting used in different hospitals. As a result, a representative of the Survey is now making personal visits to the larger hospitals of the state to gather information which may be uniformly handled and subjected to accurate analysis. These data, covering hospitals which contain from 50 per cent to 75 per cent of the hospital beds in the state, will be available by the end of May.

Information regarding the payment of workers in California when absent from work because of illness has also been collected. Usable replies have been received from 251 firms, employing nearly 150,000 workers in California. Information has also been received from health agencies, foreign countries, etc.

III. *Preparation of the Data for Analysis.*

The material obtained in the various ways described has been subjected to an exhaustive editing and coding process. The General Field Schedules, the Mailing Schedules, the Recheck Schedules, and the schedules from various types of medical men have all been edited and coded, and the information contained has been entered on Hollerith tabulating cards. A total of about 40,000 cards have been punched from these schedules, in addition to approximately 20,000 punched from the various directories of medical practitioners for use in the analysis of the distribution of medical facilities throughout the state.

At the present time a force of editors and coders is engaged in coding supplementary information on the General Field Schedules and these data are being entered on a second Hollerith card. This work should be completed by the end of May.

IV. *Tabulation of Data.*

The most significant information on the General Field Schedules has been tabulated. Approximately fifty tables concerning the health conditions and economic situation of the thousands of families visited by Survey representatives have been constructed. A number of charts which present graphically the information contained in these tables have been constructed.

Most of the significant information on the M. D. schedules is available in the form of charts and tables. Additional information from these schedules is now being tabulated. Primary information concerning the dentists has also been tabulated and will soon be available for study. The Hollerith cards punched from the osteopaths' schedules are now being sorted, and the data thus obtained will be in table form within three weeks.

Tabulation has not begun on the cards punched from the General Mailing Schedules, but this work will not require a great deal of time, since the procedure to be followed will be similar to that used in tabulating the General Field Schedules.

A total of nearly 100 tables are now complete in mimeographed form, as well as approximately twenty-five charts.

V. *The Final Report.*

It is clear that the final report of the survey will be based largely upon a study of the statistical findings obtained. Part of the material has already been analyzed and the remainder will be analyzed as soon as the rest of the data are arranged in proper form for examination and study. The final analysis and interpretation of the large volume of data which has been assembled constitute the most important tasks of all.

The Speaker: This report of the Committee of Five is referred to Reference Committee No. 2.

Amendments to Constitution

A year ago at a meeting of the House of Delegates certain amendments to the Constitution were presented. These have been published as required, and the secretary will now read them.

The secretary read the proposed amendment to Article XIII, Section 2, of the Constitution.

Proposed Amendments to the Constitution
Article XIII, Section 2

Amend Article XIII by adding a new section to be numbered Section 2, reading as follows:

"Section 2. To further aid in carrying out the objects of the Association, the House of Delegates at any meeting at any regular or special session thereof may, by a two-thirds vote of the membership thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of one or more corporations under the laws of the state of California with such incorporators, name, purposes, county where the principal office for the transaction of business is to be located, first directors, the total number of shares, the aggregate par value, if any, of all shares, classes of shares, par value of any shares having par value, statement of the provisions, privileges and restrictions granted or imposed upon the respective classes of shares, or if the corporation be formed without capital stock the authorized number and qualifications of its voting and other rights of each class of members and the liability of each and all classes, to dues or assessments, and with such further provisions in the articles of incorporation thereof and with such by-laws as the Council shall prescribe, fix and determine; and the House of Delegates at any meeting of any regular or special session thereof may, by a vote of two-thirds of the members thereof present and acting, authorize, empower and direct the Council to grant, assign, transfer, convey or deliver or cause to be granted, assigned, transferred, conveyed or delivered to any of such corporations upon the formation thereof or to applicants for health and accident or other insurance in or from any of said corporations at or prior to the formation thereof without any consideration therefor, such funds and property, real or personal, of this Association as the House of Delegates shall from time to time authorize or ratify."

The Speaker: A motion to adopt this amendment to the Constitution is now in order.

Dr. Rodney A. Yoell (San Francisco): I arise to a point of information. Who proposes this amendment to the Constitution?

The Speaker: Mr. Secretary, can you inform us?

The Secretary: It was proposed at Riverside, Mr. Speaker, at last year's session and, of course, under the rules of the Constitution, lay over until this session. The memorandum here does not indicate who introduced the resolution, or the amendment.

The Speaker: I think the amendment was introduced by the Council, but I am not sure. I think that came from the Council report at the Riverside meeting a year ago.

Dr. Dewey Powell (San Joaquin): Can we have that amendment translated into common, everyday English?

Mr. Hartley F. Peart: It is merely changing the Constitution for the formation of a hospital and medical service corporation, if you desire to do it.

Dr. Rodney A. Yoell (San Francisco): Point of information, and request of the general counsel of the Association. In plain language, is this more or less the same resolution that was voted on and rejected by the House of Delegates at the Riverside meeting, or is there a difference here?

The Speaker: Mr. Peart, can you answer that question?

Mr. Peart: I think this is merely the authorizing resolution. It does not incorporate anything. It just puts it in the Constitution. Then, if you wish to act after that, you do so.

Dr. Alson R. Kilgore (San Francisco): There is some confusion in the minds of perhaps several of us about this. There was a resolution or other action (I do not know what you would call it; they could not have passed an amendment at the House of Delegates) along these lines passed and adopted at the Riverside House of Delegates. This is not the proposal, as I understand it, of the Council at the Riverside meeting to establish a hospitalization plan. We also passed, if I remember correctly (and I think the minutes will show it), a permissive act along these general lines. I am not quite sure why this comes up at this time.

The Speaker: It is my recollection that what was passed at Riverside was a resolution. It could not have been an amendment to the Constitution. This provides for an amendment to the Constitution.

Dr. T. Henshaw Kelly: At Riverside, when the Council presented the plan of voluntary hospital insurance, it did not succeed in obtaining the two-thirds majority that the Council set for it. At that meeting the Council introduced an amendment to the Constitution which merely was to put in the Constitution the right of the House of Delegates at any future meeting, if it ever so desired, to cause the formation of a corporation which could do business, other than the corporation which we now have, namely, The Trustees Of The California Medical Association, which is really just a holding corporation.

Because such an amendment to the Constitution is required to lay over for a year, this amendment was introduced to the House, lay over for a year, and comes up now for action by this House of Delegates. It commits the House of Delegates to nothing. It merely empowers the House of Delegates at any future meeting, if it should so desire, by a two-thirds vote, to establish such a corporation.

Dr. Harry H. Wilson (Los Angeles): Inasmuch as the secretary seems to have found the minutes of last year's meeting, might we not have the method by which the resolution or the amendment was introduced, and a rereading of the resolution?

The Secretary: Page 440 of California and Western Medicine, the issue of June, 1934: "T. Henshaw Kelly of San Francisco, on behalf of the Council, submitted the following amendments to the By-Laws: 'Resolved, That the By-Laws be amended by adding thereto a new chapter to be numbered 13, reading as follows.'" That was just as read. "The Speaker stated this amendment would be acted on at the Wednesday evening session.

"T. Henshaw Kelly, on behalf of the Council, then introduced the following amendment to the Constitution, Article XIII, Section 2," which was read. "The Speaker stated that the amendment to the Constitution would be acted on at the next annual session in 1935."

Dr. Leroy Brooks (San Francisco): I move the adoption of this amendment to the Constitution.

Dr. T. Henshaw Kelly: I second the motion.

The Speaker: It has been moved and seconded that this proposed amendment to the Constitution, as read, be adopted.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

Report of the Trustees of the California Medical Association

We will have the report of the Trustees of the California Medical Association by Doctor Kelly of San Francisco.

Dr. T. Henshaw Kelly: The Trustees of the California Medical Association, a corporation, was created some years ago by action of the House of Delegates, and holds some of the reserve funds of the Association. This is the report of the auditor and of the Auditing Committee at the close of business on December 31, 1934.

Dr. T. Henshaw Kelly read the report of the Trustees of the California Medical Association.

ANNUAL REPORT OF THE TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

To the House of Delegates:

Your trustees submit the following financial statement:

Cash in savings deposits	$31,329.66
U. S. Bonds	49,010.63
Accrued interest	496.16
Total	$80,836.45

Respectfully submitted,

T. HENSHAW KELLY, *President.*

THE SPEAKER: This report of the Trustees is referred to Reference Committee No. 2.

We will now have the report of the special legislative Committee of Six, Dr. T. Henshaw Kelly, chairman.

Report of the Committee of Six

DR. T. HENSHAW KELLY: At Riverside at the 1934 annual session of the House of Delegates of the California Medical Association there was created a Committee of Five, which was instructed to study health insurance in California, to formulate a plan for health insurance in California and to prepare a bill that might be available for presentation to the 1935 legislature. This resolution also instructed the Council of the California Medical Association to appropriate the funds necessary to provide the necessary services for the studies and work of this Committee of Five.

The Committee of Five has conducted and is conducting a comprehensive survey of the economic aspects of sickness in California. In coöperation with the State Board of Health, some $56,000 was obtained from the SERA for field work and certain types of office work. The Council, at the request of the Committee of Five, has appropriated $32,750 for the necessary supervisorial, investigative and statistical work required for the successful conduct of the survey.

At Los Angeles, on March 3, 1935, the House of Delegates, acting upon majority and minority reports of the Committee of Five, passed the resolution creating the Committee of Six that is making this report.

After an extensive discussion with the various members and groups of the California Medical Association, the Speaker appointed upon this committee Doctors Walter B. Coffey, Joseph Catton and T. Henshaw Kelly, in addition to the Committee on Public Policy and Legislation consisting of Doctors Junius B. Harris, Fred R. DeLappe, and E. T. Remmen.

The committee immediately met with the Senate Interim Committee, which informed this committee that it had decided that some form of compulsory health insurance was necessary to solve the problem of illness in California and that it would sponsor the bill presented by the Committee of Six.

Because of the necessity of an early report to the Senate by the Senate Interim Committee, your Committee of Six, requesting the aid of Hartley F. Peart, general counsel of the Association, and John B. Canning, professor of economics at Leland Stanford University, as economic adviser, began work on the bill. The Committee of Six appointed the following Advisory Committee to itself: C. G. Toland, Rodney A. Yoel, LeRoy Brooks, V. W. Hart, Lemuel P. Adams, W. W. Roblee, A. J. Scott, Louis A. Packard, R. A. Peers, Irving S. Ingber, Dewey Powell, E. M. Pallette, Loren Chandler, Lyell Kinney, and Henry Dietrich.

Day after day and night after night the committee worked, often until three or four o'clock in the morning, two meetings being held with the Advisory Committee, and members of the Advisory Committee attending almost every meeting of the Committee of Six. A bill was completed and presented to the Senate Committee. A copy of this bill was sent to each member of the California Medical Association.

The bill was included without change in the report of the Senate Interim Committee, submitted by that committee to the Senate on April 12, 1935, and introduced in the Senate after approval by the Legislative Counsel Bureau on April 15, 1935, by amendment of Senate Bill No. 454, by which number the bill is now known.

The Public Health and Quarantine Committee of the Senate, to which the bill was referred, sent the bill out to the floor of the Senate on April 24, 1935, with a number of very objectionable amendments and a recommendation "do pass." These amendments were added at the vigorous behest of opponents of the bill, cultists, commercial corporate medical organizations and physicians who would not follow the course of organized medicine.

By action of certain members of the Senate Interim Committee, certain of these amendments were removed from the bill, and by action of the Committee of Six the bill was later amended to reduce the income bracket from $3,000 to $2,400 and the coverage under the Act from the employee and his dependents to the employee only. Because of inability to agree upon the scope and cost of a dental program, primary dental benefits were eliminated and dental benefits were put into additional benefits to be authorized when the fund, in the opinion of the Commission, justifies the authorization.

Assemblyman Dewey Anderson introduced the bill in the Assembly on May 10 by amending Assembly Bill No. 1097, and in that form it contains the same provisions as Senate Bill No. 454 as amended May 7, 1935, with the exception that the two physicians have been removed from the Commission.

In Senate Bill No. 454, as amended May 7, 1935, and Assembly Bill No. 1097, as amended May 10, 1935, with the exception of the present lack of physicians on the Commission in Assembly Bill No. 1097, which we are assured will be remedied by amendment, are the principles included in the resolution of the House of Delegates of March 3, 1935.

The committee wishes it understood that if at any time during its course through the legislature the bill may be in a form unsatisfactory to the members of the California Medical Association and the committee, it does not mean that the bill is to be supported in that form by the committee at a final vote.

The committee will see the bill to a point where no further changes can be accomplished, and if the bill does not meet the standards set by the House of Delegates at the special Los Angeles session, the bill will be opposed to the limit by the Committee of Six when it comes up for final vote.

The Committee of Six, realizing from intimate contact with legislative matters the importance of continuing support of the course adopted by the House of Delegates at Los Angeles, and realizing also the necessity of safeguarding the service rendered to the sick in California and the future quality and good name of the medical profession in California, asks the approval of the House of Delegates to the foregoing.

DR. JUNIUS B. HARRIS (Sacramento): I would here like to announce that all of you who are interested in this subject—and I think we all are—may obtain a copy of this new bill presented day before yesterday in the Assembly, Assembly Bill No. 1097, by applying at the registration desk at the Ahwahnee. I have brought down two hundred copies.

In the rush and confusion in the introduction of the bill, we find two errors that I will explain to you Wednesday night.

THE SPEAKER: This report of the Committee of Six is referred to Reference Committee No. 1, of which Doctor Chandler is chairman.

New Business—Introduction of Resolutions

We are now ready for new business. Resolutions are now in order.

RESOLUTION REGARDING BIRTH CONTROL

DR. T. HENSHAW KELLY: Dr. Frank W. Lynch, who is professor of obstetrics and gynecology at the University of California, if you remember, was ill last fall and this winter and is just getting around. His physicians would not permit him to attempt the altitude of the valley. He gave me a resolution, or at least he asked me to do something about the matter, and I told him I would, in his absence, father this resolution. I would have gotten somebody from the Section on Obstetrics and Gynecology to present this, but I did not have time. I would like to offer this resolution.

Dr. T. Henshaw Kelly read the resolution as follows:

WHEREAS, Certain State and Federal legislation governing the control of reproduction is conflicting and renders certain phases of medical practice illegal; and

WHEREAS, Religious organizations have now begun to consider favorably certain means of population control; and

WHEREAS, In our present, and probably future, situation such control has economic as well as present medical aspects; and

WHEREAS, Some type of uniformity in legislation is advisable in the matter; therefore, be it

Resolved, That the House of Delegates of the California Medical Association recommends to the House of Delegates of the American Medical Association that it sanction the appointment, by the Board of Trustees of the American Medical Association, of a committee to study carefully all these related problems, and present at least a preliminary report to the 1936 session of the House of Delegates of the American Medical Association.

(Introduced by Dr. T. Henshaw Kelly, on request of Frank K. Lynch of San Francisco.)

THE SPEAKER: This resolution is referred to Reference Committee No. 1.

RESOLUTION REGARDING SENATE BILL NO. 454

Dr. Daniel Crosby (Alameda) read the resolution (marked No. 10) of Reference Committee No. 1's report, and introduced on behalf of the Alameda County Medical Association, as follows:

WHEREAS, On March 3, 1935, the House of Delegates of the California Medical Association, convinced of the advisability of some sort of health insurance in California, adopted the following resolution:

WHEREAS, The studies of the Committee of Five of the California Medical Association have shown the inability of a certain percentage of our population to adequately finance the cost entailed by illness; and

WHEREAS, Because of this economic situation proper medical care is beyond the reach of this population group; and

WHEREAS, It has been established that this problem can be alleviated by the utilization of the insurance principle; now, therefore, be it

Resolved, That the House of Delegates of the California Medical Association recommends that legislation be proposed seeking to establish a health insurance system, mandatory as to certain population groups and voluntary as to certain population groups, which shall include the following principles:

No. 1. The patient shall have absolutely free choice of physician and hospital;

No. 2. The medical profession shall determine the scope, extent, standards, quality, compensation paid for, and all other matters and things related to the medical and medical auxiliary services rendered under the system;

No. 3. There shall be no provision for cash benefits;

No. 4. The patient shall receive adequate treatment and his physician shall receive adequate compensation;

No. 5. The foregoing principles shall be maintained with such modifications thereof as may from time to time be recommended, or approved by the profession; and be it further

Resolved, That the California Medical Association immediately offer its full aid and coöperation to the Interim Committee of the Senate of the State of California charged with the study of this problem to the end that any measure which shall be passed establishing a health insurance system at the 1935 session of the California Legislature shall contain the above principles; and be it further

Resolved, That there be formed a special committee authorized and empowered to act herein, constituted as follows: the Legislative Committee of the Association and three members of the Association to be appointed by the Speaker of the House.

WHEREAS, The California Medical Association did in fact immediately offer and give its full aid to the Interim Committee; and

WHEREAS, With the combined effort of the California Medical Association and the Interim Committee, Senate Bill No. 454 was introduced, in conformity with these resolutions; and

WHEREAS, Senate Bill No. 454 has been amended out of all semblance to the original plan of the combined committee; therefore, be it

Resolved, That the House of Delegates hereby reaffirm its adherence to the principles enunciated in the originally adopted resolution, but declares its disapproval of the bill in its present amended form in so far as it fails to conform with the principles of the original resolution.

THE SPEAKER: This resolution is referred to Reference Committee No. 1.

RESOLUTION ON PROFESSIONAL CONDUCT

Dr. C. Kelly Canelo (Santa Clara) read the resolution (marked No. 6) of Reference Committee No. 1's report, on behalf of the Santa Clara County Medical Association, as follows:

WHEREAS, The present and near future hold unusual challenges to the ability of organized medicine to meet the responsibilities rightly placed upon it; and

WHEREAS, One of the chief criterions of such ability is the skill and insight in meeting the needs of patients as individuals and of the community as a whole by medical men as a unified though diverse body; and

WHEREAS, The past has transmitted to us in archives of medical literature, and especially in the formal statements of professional conduct, the results of experience in dealing with such needs; and

WHEREAS, Changing organization and needs of the community at large throw unusual strains upon the adaptation of past principles to present practice; therefore, be it

Resolved, That the Santa Clara County Medical Society respectfully propose to the officers, council, and house of delegates of the California Medical Association, that a committee be appointed to bring in a report for adoption as soon as possible by the California Medical Association, said report to consist of the following:

1. A setting forth of principles of professional conduct to govern the members of the Association at large, to reinforce and to supplement the code of ethics of the American Medical Association.
2. A proposal for the formation of a standing committee of the State Association, the function of which shall be to arbitrate differences between physicians and patients, or other matters that may arise, properly falling within the scope of such a committee.
3. The initiation of procedure to amend the Constitution and By-Laws of the State Association if necessary for the carrying out of the above proposals.
4. That our delegates to the California Medical Association be instructed to offer and support actively the above proposal at the next House of Delegates meeting.

The above motion was adopted by unanimous vote at the meeting of March 20, 1935.

THE SPEAKER: This resolution is referred to Reference Committee No. 1.

RESOLUTION REGARDING MEDICAL PRACTICE BY HOSPITALS

DR. LOWELL S. GOIN (Los Angeles): At the 1934 session of the House of Delegates certain members of the Association complained to the House that they were being unfairly dealt with by hospitals, and the House directed the appointment of a committee to investigate these charges, namely, that physicians were being exploited and the hospitals were in fact engaged in the corporate practice of medicine in certain instances. I now wish to introduce the following resolution:

WHEREAS, It has come to the attention of the House of Delegates of the California Medical Association that the relation between certain members of this Association and hospitals is neither equitable nor fair; and

WHEREAS, The committee appointed by this House to investigate this condition has reported that there is, in fact, justification for said conclusion; and

WHEREAS, This House is of the firm and unalterable opinion that the practice of medicine should at all times be confined to duly licensed physicians; and

WHEREAS, This House recognizes radiology and clinical pathology as branches of medical practice, and therefore not proper activities of hospitals; now, therefore, be it

Resolved, By the House of Delegates of the California Medical Association that a hospital conducting a department of clinical pathology and/or radiology should do so only to the interest of the patient, and not for the purpose of profit, and that every hospital should bear in mind that in arranging for diagnostic and/or therapeutic services by these departments it does so as a matter of convenience and not as an essential right; and be it further

Resolved, That the Council of the California Medical Association be and hereby is authorized and empowered to take such steps as it sees fit to establish correct relationships between hospitals and physicians; and be it further

Resolved, That the House of Delegates of the California Medical Association is unalterably opposed to any attempt to divide any branch of medical practice such as radiology or pathology into technical and professional portions, and that it declares such division or attempt at division to be against the interests of the public and the profession; and be it further

Resolved, That these resolutions and the report of this Special Committee on the Practice of Radiology and Clinical Pathology in hospitals be spread upon the minutes of this Association, and that the secretary of the California Medical Association be and hereby is directed to send a copy thereof to each of the several hospitals in this State.

THE SPEAKER: This resolution is referred to Reference Committee No. 1.

RESOLUTIONS REGARDING SENATE BILL NO. 454 AND ASSEMBLY BILL NO. 1097

Dr. R. Stanley Kneeshaw (Santa Clara) read the resolution (marked No. 11) of Reference Committee No. 1's report.

Whereas, Pursuant to the resolution of the House of Delegates of the California Medical Association, adopted and passed at its special meeting at Los Angeles on March 3, 1935, a Committee of Six was created and charged with the duty of coöperating with the Interim Committee of the Senate of the State of California which was considering health insurance; to the end that the system of insurance be established, mandatory as to certain groups and voluntary as to certain groups; and

Whereas, In the performance of this duty the committee was advised to adhere to and maintain certain principles in any bill seeking to establish such a system which this House of Delegates deemed essential to the public welfare; therefore, be it

Resolved, That this House of Delegates commends and thanks the Committee of Six for their services to organized medicine, and expresses full confidence in their actions and decisions as contained in their report; and be it further

Resolved, That in pursuance to the references made in the report of the Committee of Six concerning Senate Bill No. 454 as of May 7 date, and Assembly Bill No. 1097 as of May 10 date, this House of Delegates directs its Committee of Six to continue its full coöperation with the legislature of the State of California to the end that the good be conferred upon the people of this State.

The Speaker: This resolution is referred to Reference Committee No. 1.

Resolution Regarding Basic Science Bill

Dr. S. J. McClendon (San Diego) read the resolution (marked No. 3) of Reference Committee No. 1's report.

Whereas, The enactment by California of a qualifying certificate (Basic Science) law would promote the public health interest of our State; now, therefore, be it

Resolved, By the House of Delegates, in annual session assembled at Yosemite National Park, that this House instruct the Council of the California Medical Association to continue its studies of such a proposed law so that the same can be prepared for submission by Initiative at the State election in the fall of 1936, and that herewith is submitted a form of prepared bill which conforms to the Act approved by the Bureau of Legal Medicine and Legislation of the American Medical Association. . . .

The Speaker: This resolution is referred to Reference Committee No. 1.

Resolution Regarding X-Ray Fee Schedule

Dr. Hans Hartman (Stanislaus) read the resolution (marked No. 7) of Reference Committee No. 1's report.

Whereas, The recent reduction of the x-ray fee schedule of the State Compensation Insurance Fund does not meet with the approval of the majority of the general practitioners of the State; and

Whereas, The present schedule was adopted by the State Compensation Insurance Fund and other industrial accident companies due to the fact that the California State Medical Association was unable to agree on a fee schedule; and

Whereas, The fee schedule appended does meet with the approval of the general practitioners contacted; now, therefore, be it

Resolved, That this House of Delegates here assembled approve of the fee schedule herewith appended; and be it further

Resolved, That an additional fee be allowed for a radiologist for his opinion when requested; and be it further

Resolved, That the California Medical Association contact the State Compensation Insurance Fund and attempt to work out a satisfactory solution to this question.

Proposed X-ray Fee Schedule (Industrial Insurance)

Toes, finger (single digits):	
One view	$3.50
Two views	5.00
Additional each	2.00
Hand or wrist:	
One view	3.75
Two views	5.00
Additional each	2.00
Knee, elbow, ankle, arm or leg:	
One view	5.00
Two views	7.50
Additional each	2.00
Shoulder or hip joints:	
One view	6.50
Two views	10.00
Additional each	2.00
Pelvis or spine:	
One view	6.50
Two views	10.00
Additional each	2.50
Sinuses or skull:	
One view	6.50
Two views	10.00
Three views	13.50
Additional each	2.00

Stereoscopic examination to be charged for at the rate of $2.50 added to the fee for one view.

The Speaker: This resolution is referred to Reference Committee No. 1.

Resolution Regarding New Method of Paying California Medical Association Dues

Dr. Irving S. Ingber (San Francisco) read the resolution (marked No. 2) of Reference Committee No. 1's report.

The Membership Committee of the San Francisco County Medical Society, which has succeeded in enrolling 85 per cent of the eligible licensees of that city in the local society, has requested the presentation of the following resolution:

Whereas, The California Medical-Economic Survey would indicate that "almost one-third of the doctors of medicine earned less than $2,000 in 1933; that one-half earned less than $3,000, and three-quarters less than $5,000; and

Whereas, The By-Laws of the California Medical Association do not provide for resignation unless dues for the entire year are paid in full; and

Whereas, The dues of some of the component county societies are received in installments; and

Whereas, Many of the members of the general medical profession are feeling the effects of years of economic depression; therefore, be it

Resolved, That, during this period of financial stress, it be optional with the member to pay his California Medical Association dues either annually or semi-annually.

The Speaker: This resolution goes to Reference Committee No. 1.

Resolution Regarding Hospitals Supported by Taxes

Dr. L. A. Packard (Kern) read the resolution (marked No. 4) of Reference Committee No. 1's report.

Whereas, The practice of medicine in several counties in the State of California is in precarious condition; and

Whereas, This same condition may appear in other counties without warning; and

Whereas, Both tax-paid medicine and tax-paid hospitalization may be forced on certain component societies of this State; and

Whereas, There is no source of information from which component societies may obtain information to guide their actions in the event that this eventuality is forced upon them; and

Whereas, For political and economic reasons it may be necessary for members of certain component societies to accept such a type of medical practice in part or in whole; therefore, be it

Resolved, That the California Medical Association, through a committee of five members of the House of Delegates, appointed by the Speaker thereof, do make a thorough investigation of this type of practice; and be it further

Resolved, That this investigation include the peculiar and particular conditions existing in each county so threatened; and be it further

Resolved, That this committee be prepared and lend aid to each component society when and if needed, and that the California Medical Association shall allow this committee an expense fund not to exceed five hundred dollars for the purposes of the study, and that in addition each member of the committee be allowed his personal traveling and necessary expense; and be it further

Resolved, That no final recommendation by this committee will be given to any component society without the knowledge and consent of the Council of the California Medical Association.

The Speaker: This will go to Reference Committee No. 1.

Resolution Regarding Ethics

Dr. L. A. Packard (Kern) read the resolution (marked No. 5) of Reference Committee No. 1's report.

Whereas, The infringement and violation of the rules of ethics or professional conduct in a county other than that in which he has his county society membership may create situations inimical to the best interests of public health and of the medical profession; now, therefore, be it

Resolved, That this House of Delegates instruct the component county medical societies that the rules of ethics and professional conduct of each component county society shall apply to and govern all members of the Association in reference to any professional acts or conduct of such members within the territorial limits of such component county society.

The Speaker: This resolution will go to Reference Committee No. 1.

Request for Special Privilege Regarding an Undrafted Resolution

Dr. Rodney A. Yoell (San Francisco): I arise to ask for permission for the general good of the assembly. Since this House of Delegates has been in session this evening some very important information has come down from Sacramento by telephone, and in order for this House of Delegates to act properly on that information, there has been no time permitted wherein we could write the proper resolution to cover the necessary material entailed in the information that we received from Sacramento.

I would therefore request permission to have in skeleton form a resolution which will be written by tomorrow and submitted to the Resolutions Committee No. 1 which, for the sake of title, would be called, "Resolution Pertaining to Telegrams to the Interim Committee." I would ask that we be allowed to introduce this resolution before the appropriate committee tomorrow in writing, as is required by the by-laws. We have received this information in the last few minutes, and we have had no time to put the appropriate resolution down in writing.

The Speaker: A motion is in order to grant Doctor Yoell this permission.

Dr. L. A. Packard (Kern): I will so move.

Dr. Leroy Brooks (San Francisco): I will second the motion.

The Speaker: Doctor Packard moves that Doctor Yoell be given permission to introduce a skeleton resolution tonight, covering the subject of telegrams to the Interim Committee, to be filled in tomorrow and go to Reference Committee No. 1. This motion has been seconded by Doctor Brooks of San Francisco.

Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried. Doctor Yoell has that permission.

Are there any other resolutions?

Other Business

The Speaker: The request is made that the chairmen of the two Reference Committees announce where and when their meetings will be held. Doctor Chandler, can you make an announcement?

Doctors Chandler and Ruddock made announcements as to their committee meetings.

The Speaker: Before we adjourn, the Speaker would like to urge all delegates to be present promptly at eight o'clock on Wednesday evening. It is going to be a very long meeting, perhaps.

Dr. Rodney Yoell: I move that we adjourn.

The motion was regularly seconded and carried, and the meeting recessed at 10:35 p. m.

* * *

SECOND MEETING

Wednesday Evening, May 15, 1935

The second meeting of the House of Delegates of the California Medical Association was held in the Pavilion, Yosemite National Park, California, on Wednesday, May 15, 1935, at 8:15 p. m., with the Speaker, Edward M. Pallette of Los Angeles, presiding.

The Speaker: The meeting will come to order.

The secretary will call the roll. (The secretary called the roll.)

The Secretary: A quorum is present, Mr. Speaker.

Dr. Irving S. Ingber (San Francisco): There are only ten delegates and two alternates who have been seated from San Francisco. There are other alternates here whose names were not read to replace those delegats not present.

The Secretary: I would suggest that the delegates give the names of the alternates who will serve for those who have not responded. (Delegations of component county societies were then filled in usual manner.)

Dr. E. Eric Larson: As chairman of the Credentials Committee, I move that the roll call as it now stands compose the House of Delegates for this session.

Dr. T. Henshaw Kelly: I second the motion.

The Speaker: You have heard the motion. Are there any remarks? All in favor say "aye"; opposed, "no." Carried.

There being a quorum present, I hereby declare the House open for business.

Mr. Secretary, will you report the place of the meeting of the next annual session?

Place of Annual Session in 1936

The Secretary: By direction of the Council, I am instructed to advise the House of Delegates that the Council has decided that the 1936 annual session of the California Medical Association will be held in Coronado, the date to be set by the Council at another session. (Applause.)

The Speaker: I will now ask the Vice-Speaker to take the chair.

Vice-Speaker Graves took the chair.

Election of President-Elect

The Vice-Speaker: Nominations are now in order, and the first will be nominations for president-elect.

Dr. Harry H. Wilson (Los Angeles): Mr. Speaker, Ladies, and Gentlemen of the House of Delegates: It is a rare privilege to be able to offer to you, in the nomination for president-elect, a gentleman who has served you as the first and only Speaker of the House of Delegates since the inception and usage of the new charter adopted in Coronado in 1929; a man who has been thirty-seven years in the practice of medicine; a member of the California Medical Association since 1900—thirty-five years as a member of this Association—a past president of the Los Angeles County Medical Association; a member of the State Board of Public Health for four years and its vice-president; a member of the Los Angeles City Board of Health for several years; interested in more affairs than any man I know of in medicine, other than medicine; and yet, as the Speaker, all of you are aware of his astuteness, his ability, his discrimination, fair-mindedness and judicial attitude, giving to every faction and individual, free opportunity to express themselves.

It is a great privilege to offer in nomination the name of Dr. Edward Pallette as president-elect of the California Medical Association.

The audience arose, applauded and cheered.

The Vice-Speaker: Is there a second to the nomination?

Dr. T. Henshaw Kelly: Mr. Speaker, I think what the House of Delegates did should justify the statement in the minutes that the House seconded the nomination.

The Vice-Speaker: If there is no objection, it will be so considered.

Are there any other nominations?

Dr. Daniel Crosby (Alameda): I move that nominations be closed.

The motion was seconded by several.

The Vice-Speaker: Are there any objections? If not, so ordered. All those ready for the question signify by the usual sign; contrary, "no." Carried.

A motion is in order for the secretary to cast the ballot.

Dr. Henry J. Ullmann (Santa Barbara): I so move.

Dr. William H. Kiger (Los Angeles): I second the motion.

The Vice-Speaker: Are you ready for the question? All those in favor signify by the usual sign; contrary. So ordered.

The Secretary: Mr. Speaker, your secretary does so cast. (Applause.)

The Vice-Speaker: It is my privilege and honor to declare Dr. Edward M. Pallette elected president-elect of the California Medical Association. I will ask Dr. William Kiger and Dr. Harry Wilson to conduct your president-elect to the platform.

(Doctors Kiger and Wilson conducted President-Elect Pallette to the platform.)

The Vice-Speaker: Members of the California Medical Association, your president-elect, Dr. Edward M. Pallette of Los Angeles.

The audience arose and applauded.

President-Elect Pallette: Ladies and Gentlemen of the House of Delegates of the California Medical Association: I have prepared no speech. We have too much business ahead of us. The night is too long and the work is too great for me to take much of your time. However, I would like to say just a few things.

I am afflicted right now with a number of conflicting emotions. I am very proud, of course. I think any doctor in California could not help but feel very proud, indeed, to be elected president of this great Association of our great State, and I thank you very much.

However, there are some other feelings which I have. One is of regret. I have enjoyed this job of Speaker for the last six years very much. This is the fourth and last session of this House of Delegates over which I am presiding, and I regret to give up the job. So there is some pride and some regret.

Then there is another feeling which is very definite and very deep. Yesterday morning I looked in for a moment on the breakfast of the past-presidents of the California Medical Association. They are not a decrepit old bunch by any means. There were nine or ten outstanding men there, any one of whom you would be proud of as your friend. When I looked at that crowd and realized that in another year or two I would be having breakfast with that old man's club (laughter), I was not so darned sure I would measure up with the rest of them. I am afraid I will not.

Then when I think of the work that some of these recent presidents have done, as well as the older ones—I am more familiar with the recent; take these three men on the platform, for John Graves has been president, too—it is hard to keep up with that crowd. I tried with "Bill" Toland, and ran up and down this State in that new Lincoln of his with his chauffeur. I have no Lincoln, and I haven't a chauffeur. I cannot keep up with Bill. Bob Peers has a "Chev" and a chauffeur. He is proud of both of them. I have a six-year-old Cadillac. By the time I am president the thing will be eight years old. (Laughter.)

Thank you from the bottom of my heart, and I will do the best I can. (Applause.)

Speaker Pallette resumed the chair.

The Speaker: The next order of business is nominations for Speaker of the House of Delegates. Nominations are now in order.

Election of Speaker of the House of Delegates

Dr. C. A. Dukes (Alameda): It is my rare privilege to stand before you this evening for the purpose of nominating a speaker of the House to succeed the one, Doctor Pallette, whom you have just honored with the great privilege of being president-elect of this Association, and consequently it places upon me a great responsibility. But I do not hesitate to accept that responsibility when I have the pleasure of nominating a friend, a medical friend, a student friend, a friend who was with me in Cooper Medical College in 1893-1895; a man who has honored the profession, a man who has been a true husband and father, a man who has represented his community, one you can be assured will fill the place of Doctor Pallette, as difficult as that may be.

It is my pleasure at this time to name as candidate for this office, William Roblee of Riverside.

The audience arose, applauded and cheered.

The Speaker: Is there a second to this nomination of Doctor Roblee?

Dr. C. Van Zwalenburg (Riverside): I second the nomination.

The Speaker: Are there any other nominations?

Dr. Dewey Powell (San Joaquin): I move that nominations be closed, and that the secretary cast the ballot.

Dr. Oscar Reiss (Los Angeles): I second Doctor Powell's motion.

The Speaker: It has been moved by Doctor Powell, and seconded by Doctor Reiss that nominations for speaker be closed, and that the secretary cast the ballot for Dr. W. W. Roblee for speaker.

Are you ready for the question? Those in favor say "aye"; opposed. It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: Doctor Roblee is declared elected. (Applause.) Doctor Dukes will conduct Doctor Roblee to the platform.

Nominations are now in order for vice-speaker.

Election of Vice-Speaker of the House

Dr. R. A. Cushman (Mendocino): It gives me great pleasure to place in nomination for vice-speaker the incumbent, Dr. John H. Graves of San Francisco. (Applause.)

Dr. Irving S. Ingber (San Francisco): I second the nomination.

Dr. George G. Reinle (Alameda): I move that nominations be closed, and that the secretary cast the ballot for Dr. John H. Graves of San Francisco.

Dr. T. Henshaw Kelly: I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The Speaker declares Dr. John H. Graves elected Vice-Speaker for another year.

The audience arose and applauded.

The Vice-Speaker: I just want to thank you all for the confidence you have just expressed in me as vice-speaker, and to say to our retiring speaker and future president-elect, Doctor Pallette, that a darky who looked in on that meeting of the ex-presidents said that when he was in the cemetery he saw a headstone that said, "Not dead, but sleeping." He said, "That bird isn't kidding anybody but himself." (Laughter and applause.)

* * *

The Speaker: The Speaker would like to call upon the speaker-elect, Dr. W. W. Roblee, to address the House. (Applause.)

Speaker-Elect Roblee: Mr. Speaker and Members of the House: I am under no illusions. It is a difficult job that is ahead of me. Ed Pallette has had his hands pretty full with this crowd, but with John Graves on one side and Fred Warnshuis on the other, I have an idea that the plain family doctor from one of the cow counties may be able to get by. He will try it at least.

I will promise you that this gavel will be wielded very sparingly. It will be wielded impartially, but if the opportunity and the necessity arises, it will also be wielded with finality.

Again I thank you. It is a great honor, and I appreciate it very much. (Applause.)

Election of District Councilors

The Speaker: Nominations are now in order for councilors. For the first district, a councilor to succeed Dr. W. W. Roblee, resigned.

Dr. C. Van Zwalenburg (Riverside): Mr. Speaker and Members of the House: The Riverside County Society is truly thankful for the honors which have come to Riverside, particularly in the promotion of our illustrious member from Riverside to that of Speaker of the House. We would have been pleased to continue him in the position which he has so ably filled, but we are very much pleased to pass that honor on to our good neighbor, San Bernardino. Riverside and San Bernardino are brothers in this sort of work, and we are very much pleased to nominate a man who is outstanding in San Bernardino County and in the entire district, the first district of California. He has the rare distinction of serving a second year as president of that county, a thing not known in San Bernardino County before.

I take very great pleasure in presenting and nominating my friend Dr. C. L. Emmons of Ontario, to succeed Doctor Roblee as councilor for the first district of California. (Applause.)

The Speaker: Doctor Emmons of San Bernardino County has been nominated councilor for the first district.

Dr. S. J. McClendon (San Diego): I would like to second the nomination for Doctor Emmons, and move that nominations be closed and the secretary cast the ballot.

Dr. L. C. House (Imperial): I second the motion.

The Speaker: It has been moved and seconded that nominations be closed, and the secretary cast the ballot for Doctor Emmons of San Bernardino as councilor from the first district.

Are you ready for the question? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The Speaker declares the election of Doctor Emmons as councilor from the first district. Will Doctor Emmons rise and take a bow? (Applause.)

* * *

Nominations are now in order for councilor from the fourth district, to succeed Doctor DeLappe, resigned.

Dr. John H. Shephard (San Jose): Is it not provided according to the Constitution and By-Laws that names of nominees for district councilors shall be made by caucus signed by the respective delegates of the districts and filed with the secretary?

The Speaker: I stand corrected. Have you any nominations from the fourth district, Mr. Secretary?

The Secretary: Mr. Speaker, two nominations have been submitted by the delegates of the fourth district:

"We, the undersigned delegates of the fourth district, nominate Dr. A. E. Anderson of Fresno as councilor from this district of the California Medical Association."

"To the House of Delegates, California Medical Association: Dr. Dewey R. Powell of Stockton is hereby nominated as councilor from the fourth district."

Dr. Lowell S. Goin (San Francisco): Mr. Speaker, point of order. Is it not always provided that the names of the delegates signing the nominations should be required?

The Speaker: I do not think it is required by the by-laws, but if there is no objection the secretary will read these names.

The Secretary: The delegates signing the nomination for Doctor Anderson are: G. W. Walker of Fresno, Thomas F. Madden of Fresno, Charles A. James of Fresno, E. C. Bond of Kings, Hartley G. Dewey of Merced, and K. F. Weiss of Tulare.

Signers of the nomination of Doctor Powell are: Hans Hartman of Stanislaus and C. A. Broaddus of San Joaquin.

The Speaker: Are there any other nominations from the fourth district? If not, a motion is in order to close the nominations and proceed to ballot.

Dr. G. W. Walker (Fresno): I move that nominations be closed for councilor of the fourth district.

Dr. C. A. Broaddus (San Joaquin): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

We will now proceed to ballot. It will be necessary for the Speaker to appoint some tellers. I will ask Dr. E. V. Askey, whom I have already asked to serve as sergeant-at-arms, to serve as chairman of the tellers. I will appoint Doctor Walker of Fresno, Doctor Broaddus of San Joaquin, Dr. Eric Larson of Los Angeles, and Dr. Irving Ingber of San Francisco to serve as tellers.

The Secretary: Mr. Speaker, there are 129 delegates entitled to vote.

The Speaker: The secretary has announced that there are 129 delegates present entitled to vote.

Doctor Ingber requests to be relieved from serving as teller. I will appoint Dr. LeRoy Brooks of San Francisco to serve as teller in place of Doctor Ingber.

Have all voted who wish to vote? I declare the ballot closed.

Dr. E. Vincent Askey: Out of 129 votes cast, Doctor Powell received 43 and Doctor Anderson received 86.

Dr. Dewey Powell (San Joaquin): I would like to move that the election of Doctor Anderson be declared unanimous, and the secretary so cast the ballot. (Applause.)

Dr. C. A. Broaddus (San Joaquin): I second the motion.

The Speaker: It has been moved by Doctor Powell and seconded by Doctor Broaddus, both of San Joaquin, that the election of Doctor Anderson as councilor from the fourth district be declared unanimous.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The secretary has cast the unanimous vote of this House of Delegates for Doctor Anderson as councilor and he is declared elected. Doctor Anderson, will you stand up and take a bow? (Applause.)

* * *

The next order is nominations for councilor from the seventh district.

The Secretary: Your secretary has received the following nomination: "We, the delegates of the seventh councilor district, place in nomination Dr. O. D. Hamlin. Signed: E. N. Ewer, A. M. Meads, Daniel Crosby, John Ewer, L. P. Adams, W. H. Sargent, Robert Glenn, Dorothy Allen, George G. Reinle, Frank R. Makinson and the 483 other members of the Alameda County Society, and the duck shooters of Oakland. (Applause.)

Dr. George G. Reinle (Alameda): Mr. Speaker, it is a most esteemed privilege and honor to second the nomination of one whom we all hold in the highest esteem in Alameda County, a man who has sacrificed himself, has given of his time for a great many years to organized medicine, and to whom, when there are any problems, every member of the Alameda County Medical Association goes for a solution. His wisdom has been developed over a great many years as a councilor of this organization, as chairman of the Council, and as a trustee. May I reiterate that he has devoted practically as much time as any man in this organization to the California Medical Association. Again, I esteem it a privilege to second his nomination. (Applause.)

Dr. C. A. Dukes (Alameda): I would like to move that nominations be closed, and the secretary cast the ballot, because O. D. Hamlin and I have lived together, fought together, never bled together, but we hope to die together.

The Speaker: I hope you will go to heaven together.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: It has been moved by Doctor Dukes, and seconded by Doctor Crosby that nominations be closed and the secretary cast the ballot for O. D. Hamlin of Alameda County as councilor from the seventh district.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast. (Applause.)

The Speaker: The Speaker declares the election of Doctor Hamlin. Doctor Hamlin will now address you. (Applause.)

Dr. O. D. Hamlin arose and gave the usual western salute of thumbs down.

Election of Councilors-At-Large

The Speaker: The next order of business is the election of councilors-at-large. First, is a councilor to succeed Dr. Harry H. Wilson of Los Angeles, time expired.

Dr. Philip H. Stephens (Los Angeles): I wish to place in nomination the name of Dr. Harry H. Wilson.

Dr. Leo J. Madsen (Los Angeles): I second the nomination.

The Speaker: Are there any other nominations?

Dr. Madsen: I move that nominations be closed, and that the secretary cast the ballot for Dr. Harry H. Wilson as councilor-at-large to succeed himself.

Dr. Fred B. Clarke (Los Angeles): I second the motion.

The Speaker: It has been moved by Doctor Madsen, and seconded by Doctor Clarke that nominations be closed, and the secretary cast the ballot for Dr. Harry H. Wilson to succeed himself as councilor-at-large.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The secretary has cast the ballot for Doctor Wilson to succeed himself, and he is declared so elected. (Applause.)

* * *

Nominations are now in order for the election of a councilor-at-large to succeed Dr. Morton R. Gibbons of San Francisco.

Dr. Alson R. Kilgore (San Francisco): Memories of this House of Delegates and the California Medical Association would be short-lived, indeed, if it were necessary for anyone to call to your mind the services to this Association which Dr. Morton Gibbons has rendered so unselfishly and efficiently and intelligently over many, many years. I take the greatest pleasure in nominating Doctor Gibbons to succeed himself.

Dr. Daniel Crosby (Alameda): Mr. Speaker, Ladies and Gentlemen of the House: This hall and that fireplace over there constitute an allegory, and that is, for the medical profession today there is one isolated, warm spot; and the overcoats on the other side show that it is a cold world that is facing us if we are not cautious.

I agree with Doctor Kilgore that praise is not necessary, but I want to take your minds back a long way when he was not serving as an official of this Association. But when an experiment in medicine came with the establishment of the Industrial Accident Commission, Dr. Morton Gibbons was its director, its medical director, and I defy any person to say, and I am sure there are mighty few who think there was ever any service out of that office but a protective service to the public and a protective service to the humblest medical man in the State.

It is with the greatest pleasure that I second the nomination of Dr. Morton Gibbons. (Applause.)

Dr. J. W. Crossen (Los Angeles): I should like to further second, from the South, the nomination of Doctor Gibbons. (Applause.)

Dr. Leroy Brooks (San Francisco): I move that nominations be closed, and the secretary be instructed to cast the unanimous ballot for Doctor Gibbons.

Dr. Henry J. Ullmann (Santa Barbara): I second that motion.

The Speaker: It has been moved by Doctor Brooks and seconded by Doctor Ullmann that nominations be closed, and the secretary cast the ballot for Dr. Morton Gibbons of San Francisco, to succeed himself as councilor-at-large.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary casts the ballot of this House for Dr. Morton R. Gibbons, Sr., of San Francisco. (Applause.)

The Speaker: The Speaker declares Dr. Morton R. Gibbons, Sr., of San Francisco, elected. (Applause.)

Election of Delegates to American Medical Association

The next order of business is the election of delegates and alternates to the American Medical Association. First is the successor to Dr. Elbridge Best of San Francisco as a delegate.

Dr. Loren R. Chandler (San Francisco): I would like to place in nomination the name of Dr. Elbridge Best to succeed himself.

Dr. John H. Shephard (San Jose): I second the nomination.

Dr. William H. Kiger (Los Angeles): I move that nominations be closed and the secretary cast the ballot.

Dr. T. Henshaw Kelly: I second the motion.

The Speaker: It has been moved by Doctor Kiger, and seconded by Doctor Kelly, that nominations be closed and the secretary cast the ballot for Dr. Elbridge Best.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: The Speaker, your secretary does so cast.

The Speaker: The Speaker declares Doctor Best elected to succeed himself as delegate.

The next order of business is the election of an alternate to Doctor Best to succeed Dr. Robert S. Stone of San Francisco. Nominations are in order.

Dr. Alson R. Kilgore (San Francisco): I nominate Doctor Stone to succeed himself.

Dr. L. Henry Garland (San Francisco): I second the nomination.

The Speaker: It has been moved and seconded that Doctor Stone be elected to succeed himself as alternate to the American Medical Association to Doctor Best.

Dr. Irving S. Ingber (San Francisco): I move that nominations be closed, and that the secretary cast the unanimous ballot for Doctor Stone.

Doctor Garland: I second the motion.

The Speaker: It has been moved by Doctor Ingber, and seconded by Doctor Garland, that the nominations be closed and the secretary cast the ballot for Doctor Stone to succeed himself.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The Speaker announces the election of Doctor Stone.

* * *

The next order of business is the election of a delegate to the American Medical Association to succeed Dr. Lyell C. Kinney of San Diego.

Dr. C. O. Tanner (San Diego): I would like to nominate Dr. Lyell C. Kinney to succeed himself.

Dr. C. A. Dukes (Alameda): I would like to second the nomination.

The Speaker: Are there any other nominations?

Dr. Leo J. Madsen (Los Angeles): I move that nominations be closed, and that the secretary cast the ballot for Dr. Lyell C. Kinney to succeed himself.

Dr. Fred B. Clarke (Los Angeles): I second the motion.

The Speaker: It has been moved by Doctor Madsen, and seconded by Doctor Clarke, that the nominations be closed and the secretary cast the ballot for Dr. Lyell C. Kinney to succeed himself. Are there any remarks?

Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The Speaker declares Doctor Kinney elected to succeed himself as delegate.

* * *

The next order of business is the election of a successor to Dr. Harry H. Wilson as alternate to Doctor Kinney.

Dr. Carl R. Howson (Los Angeles): I would like to nominate Doctor Wilson to succeed himself.

Doctor Clarke (Los Angeles): I second the nomination.

Dr. E. T. Remmen (Los Angeles): I should like to move that nominations be closed, and the secretary cast the ballot for Doctor Wilson to succeed himself.

Doctor Oscar Reiss (Los Angeles): I second the motion.

The Speaker: It has been moved by Doctor Remmen of Los Angeles, and seconded by Doctor Reiss of Los Angeles, that nominations be closed, and the secretary cast the ballot for Dr. Harry Wilson to succeed himself as alternate.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Mr. Speaker, your secretary does so cast.

The Speaker: The Speaker declares Doctor Wilson elected to succeed himself.

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The next order of business is the election of a delegate to succeed Dr. Fred B. Clark of Long Beach.

Dr. E. Vincent Askey (Los Angeles): I wish to nominate a man esteemed by laymen and his fellow physicians alike, a thinker, an orator, and a gentleman, Dr. Fred B. Clarke of Long Beach. (Applause.)

Dr. Orrie E. Ghrist (Los Angeles): I second the nomination.

Dr. W. T. Webber (Los Angeles): I would like to move that nominations be closed, and the secretary instructed to cast the unanimous ballot in favor of Doctor Clarke.

Dr. George D. Maner (Los Angeles): I second the motion.

The Speaker: It has been moved by Doctor Webber, and seconded by Doctor Maner, that nominations be closed, and the secretary cast the ballot for Dr. Fred B. Clarke to succeed himself.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: The secretary casts the ballot of this House for the gentleman, the orator, and the husband of the singer. (Applause.)

The Speaker: The Speaker takes great pleasure in announcing the election of Doctor Clarke.

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The next order of business is the election of an alternate to succeed Dr. A. J. Scott, who is alternate to Dr. Fred B. Clarke.

Dr. Oscar Reiss (Los Angeles): I wish to nominate Dr. A. J. Scott, Jr., to succeed himself.

Doctor Maner: I second the nomination of Doctor Scott.

The Speaker: Are there any other nominations?

Dr. E. Eric Larson (Los Angeles): I move that nominations be closed, and the secretary cast the ballot.

Dr. E. Earl Moody (Los Angeles): I second the motion.

The Speaker: It has been moved and seconded that nominations be closed, and that the secretary cast the ballot for Dr. A. J. Scott to succeed himself as alternate.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

The Secretary: Your secretary does so cast.

The Speaker: The Speaker announces the election of Dr. A. J. Scott to succeed himself.

Standing Committees

The next order of business is approval by the members of standing committees elected by the Council. Mr. Secretary.

The Secretary: Mr. Speaker and Gentlemen of the House of Delegates: The Council directs that the secretary make the following report to the House of Delegates as to their appointees on standing committees of the Association.

Committee on Associated Societies and Technical Groups

William H. Geistweit	San Diego	1936
John V. Barrow	Los Angeles	1937
William J. Kerr (Chairman)	San Francisco	1938

Committee on Health and Public Instruction

W. R. P. Clark	San Francisco	1936
Benjamin W. Black	Oakland	1937
Fred B. Clarke (Chairman)	Long Beach	1938

Committee on History and Obituaries

J. Marion Read	San Francisco	1936
George D. Lyman (Chairman)	San Francisco	1937
Frank R. Makinson	Oakland	1938
Secretary ex officio		
Editor ex officio		

Committee on Hospitals, Dispensaries, and Clinics

Daniel Crosby (Chairman)	Oakland	1936
Karl L. Schaupp	San Francisco	1937
John C. Ruddock	Los Angeles	1938

Committee on Industrial Practice

Mott H. Arnold	San Diego	1936
Harry E. Zaiser	Orange	1937
Morton R. Gibbons (Chairman)	San Francisco	1938

Committee on Medical Defense

Fred R. DeLappe	Modesto	1936
John P. Nuttall	Santa Monica	1937
George G. Reinle (Chairman)	Oakland	1938

Committee on Medical Economics

William R. Molony, Sr.	Los Angeles	1936
Willard Stone	Pasadena	1937
John H. Graves (Chairman)	San Francisco	1938

Committee on Medical Education and Medical Institutions

Loren R. Chandler (Chairman)	San Francisco	1936
John B. Doyle	Los Angeles	1937
George Dock	Pasadena	1938

Committee on Membership and Organization

Dewey R. Powell	Stockton	1936
Thomas H. McGavack	San Francisco	1937
E. Vincent Askey (Chairman)	Los Angeles	1938
Secretary ex officio		

Committee on Publications

Frederick F. Gundrum	Sacramento	1936
Percy T. Magan (Chairman)	Los Angeles	1937
Ruggles A. Cushman	Talmadge	1938
Secretary ex officio		
Editor ex officio		

Committee on Public Policy and Legislation

Fred R. DeLappe	Modesto	1936
E. T. Remmen	Glendale	1937
Junius B. Harris (Chairman)	Sacramento	1938
President ex officio		
President-elect ex officio		

Committee on Scientific Work

F. M. Pottenger	Monrovia	1936
Lemuel P. Adams	Oakland	1937
J. Homer Woolsey	Woodland	1938
John C. Ruddock, Secretary of Section on General Medicine, ex officio		
H. Glenn Bell, Secretary of Section on General Surgery, ex officio		
Frederick C. Warnshuis (Chairman), ex officio		

Cancer Commission

Harold Brunn	San Francisco	1936
Henry J. Ullmann	Santa Barbara	1936
Clarence G. Toland	Los Angeles	1936
Charles A. Dukes (Chairman)	Oakland	1937
Lyell C. Kinney (Vice-Chairman)	San Diego	1937
Alson R. Kilgore (Secretary)	San Francisco	1937
Orville Meland (Secretary for Southern Section)	Los Angeles	1938
A. Herman Zeiler	Los Angeles	1938
Gertrude Moore	Oakland	1938

The Speaker: A motion is now in order to approve these committee appointments by the Council.

Dr. W. R. Molony (Los Angeles): I so move.

Dr. William H. Kiger (Los Angeles): I second the motion.

The Secretary: Mr. Speaker, may I submit a supplemental report of more names to the committees, and that is to the Cancer Commission: Orville Meland of Los Angeles, A. Herman Zeiler of Los Angeles, and Gertrude Moore of Oakland.

The Speaker: Doctor Molony's motion is now in order.

Dr. W. R. Molony: I move the acceptance of the report of the Council.

Dr. William H. Kiger: I second the motion.

The Speaker: It has been moved by Doctor Molony and seconded by Doctor Kiger that we approve the appointments made by the Council to these standing committees.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

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Report of Reference Committee on Reports of Officers and of Standing Committees[*]

The next order of business is the report of the Reference Committee on reports of officers and of standing committees. That is the committee of which Doctor Ruddock is chairman. Dr. John C. Ruddock of Los Angeles. (Applause.)

Doctor Ruddock read page 1 of the report of Reference Committee No. 2.

Doctor Ruddock: I move the adoption of this portion of the report and recommendation.

The Speaker: Is there a second to this motion?

Dr. C. A. Dukes (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried. This part of the report is adopted.

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[*] For greater ease in reference, the complete report of this committee is printed as a whole on page 78.

Doctor Ruddock read page 2 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. T. Henshaw Kelly: I second the motion.

The motion was carried by a rising vote.

Doctor Ruddock read pages 3 to 7 inclusive of the report of Reference Committee No. 8.

Doctor Ruddock: I move the adoption of this report.

Dr. Henry J. Ullmann (Santa Barbara): I second the motion.

The Speaker: It has been moved by Doctor Ruddock and seconded by Doctor Ullmann that this part of the report be adopted.

Dr. Rodney A. Yoell (San Francisco): As a member of the Committee of Five, a stern sense of duty compels me to speak on the recommendations of that committee.

There are two factual errors in the report of that committee which is the right and property of every member in this House of Delegates. Dr. Paul Dodd reports, not the necessity of $3,000 for finishing the survey, the factual data of which has already been accumulated, the need for $800. It is my understanding that the dentists have contributed $800 for the purpose of paying for some printing. I have not been able to ascertain as yet whether that $800 has been turned over into the funds of the committee.

The second question I wish to discuss is that the report of the Committee of Five asks that no conclusions be given, that no deductions were given, and that no recommendations were made.

There was a minority report from the Committee of Five giving very definite conclusions, giving very definite factual data, and that report was acted on and passed by this House of Delegates and accepted, and not the majority report.

Since the meeting of the Committee of Five, which was held for from one to one and one-half hours before the House of Delegates on March 3, there has never been, as far as I know, another meeting of the Committee of Five.

It is perfectly true that the California Medical Association has put up a large sum of money, but it is equally true that the California Medical Association is the trustee for the conclusions drawn from the expenditure of over $56,000 of public money, and the people of this State who appropriated that money are entitled not to the factual data after it has been edited by a committee of the medical profession alone, but in all honesty they are entitled to every word, comma, period and paragraph, and any portion of that committee's report. It would be infamy on the part of the medical profession of this State to try to edit this report. They can give their side of the report if they wish, but the full report must and should be published.

So I request that someone in this House of Delegates, on this floor tonight, ask that the Committee of Five be allowed to finish their work in a decent manner, and that all the material data be collected so that this work, which is a monument to the integrity, intelligence and honesty of the medical profession of California, be brought to a logical, definite and decent conclusion. (Applause.)

Dr. William R. Molony (Los Angeles): My understanding from Professor Dodd is that it will require approximately $3,000 to complete the report, according to the plans he has. It is on that basis that we have submitted this to the committee.

Dr. Walter B. Coffey (San Francisco): I have been brought into the whole question much against my will. Let us be honest with ourselves.

Many years ago I asked for a voluntary insurance act. It was turned down. Later on I was put on a committee on compulsory insurance. I wish to carry out the acts of the House of Delegates. I am faithful to my profession, even against my judgment. I held a conversation today with Professor Dodd, who was the director of the survey of the Committee of Five. He told me this survey was completed and sufficient for us to form a judgment whether we should act or not. Are you going to force this Committee of Six into a false position before the public? Are you going to stultify yourselves when you know that you have a survey that is sufficient? As a member of the Committee of Six, I knew a survey was unnecessary, and that it meant the spending of public and society money.

Had the House of Delegates instructed me to be for voluntary instead of compulsory insurance, I would have carried out its wishes. I carried out what you instructed.

I will say right now, as a member of that Committee of Six, if our legislature does not carry out your instructions, I will oppose any bill before the legislature as an individual, independent of this convention. (Applause.)

The Speaker: Doctor Coffey, I think it is only fair to say that there was nothing in this part of the report in regard to the Committee of Six. It is all the old Committee of Five. There is no reference to the Committee of Six in this report so far.

Doctor Coffey: I understood from the Speaker that this survey was not completed. I do not believe in spending a dollar of our money in the furtherance of this survey. It is not necessary. I am opposed to spending any more money of the State Society in this work. We have sufficient judgment to know how to act, and we are going to act. If Senate Bill No. 454 is not in the interest of the medical profession, I as an individual member of that State Society will oppose the bill.

Dr. Harry H. Wilson (Los Angeles): As the secretary-treasurer of the Committee of Five and, I believe, having signed every check with Doctor Dodd for the expenditures, and having presented the anticipated budget to the Council for approval, it is my duty to report to the House the status of funds.

The exact sum read by the chairman of the committee was some $30,000-odd, I believe. One thousand dollars is still remaining in the appropriation of the Council to be paid to the survey staff and, according to the request of Doctor Dodd, the $800 that was paid to the California Medical Association by the dental association is desired, which would make $1,800 still remaining to be paid, which, with the sum appropriated by the Council, is $32,500. They received $30,000-odd, so there is a $1,200 discrepancy in the statement as to expenditures, which should not be bickered over, really.

It was my recommendation to the Council and to the Committee of Five in an informal meeting that the medical association should not be uninterested. We have engaged some estimable gentlemen to conduct the survey for us. Regardless of opinion as to conclusions, the survey staff should complete their conclusions, submit their report to the Committee of Five. Doctor Dodd told me, and Miss Davis, who draws the checks out in the office, told me, it would probably be impossible for them to quite wind it up without another $1,200, which would make $3,000 more than the money accounted for tonight, but it would only make $1,200 more than the money that was appropriated by the Council for this purpose.

It would seem that it might be desirable for a medical group to survey and summarize the conclusions in order to check upon the viewpoint of the economists, and that such opinion be submitted to the Council and to the House for their action, without any editing or changing of the opinion of the economists, in spite of the fact that it is possible we may have a variance in conclusions. Speaking without the consent of the Committee of Five, but I think with the consent of the chairman of the committee and with the consent of one or two of the other members with whom this has been discussed, I believe that would be generally acceptable to the committee, and we would feel we were discharging our duty to the House and to the profession. (Applause.)

Dr. Dewey Powell (San Joaquin): May I ask to have the conclusions of the committee's recommendation again?

Doctor Ruddock reread that portion of the committee's report.

Doctor Powell: I move to amend that resolution so that each delegate can be assured of receiving, along with the interpretation of the Committee of

Five, the uncensored report of the Council of Economic Research employed by us.

Dr. Irving S. Ingber (San Francisco): I will second that motion.

The Speaker: You have heard the motion by Doctor Powell, seconded by Doctor Ingber. Are there any remarks upon this motion to amend?

Dr. Harry H. Wilson (Los Angeles): As a courtesy to our staff, if the words "together with" were inserted in the committee report instead of "rather than," when it compares the Committee of Five report to the survey staff, I think it would be much more acceptable to the public and to us.

The Speaker: Doctor Powell, do you accept that change?

Dr. Dewey Powell: That is the meaning I understood.

The Speaker: Doctor Ingber, do you accept that change?

Doctor Ingber: I do.

Doctor Coffey: I wish to say that I accept it. I misunderstood the situation, that they wanted to spend $2,000 or $3,000 more of State Society money. I object to that. I believe there is too much money being spent on this so-called survey. But you have accepted it, and therefore I am perfectly willing to withdraw my remarks if it is only going to cost $800 for these gentlemen to make their final report. Therefore, if it is limited to a certain amount, say, $800, I accept that for the completion of the survey to bring it to a conclusion.

The Speaker: You are voting on the motion to amend. Those in favor say "aye"; opposed, "no." The amendment is carried.

You are now voting on the original motion to adopt this part of the report as amended. Are you ready for the question? Those in favor say "aye"; opposed, "no." The motion is carried, and this part of the report is adopted.

* * *

Doctor Ruddock read page 8 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. Alson R. Kilgore (San Francisco): I second the motion.

I would like to offer an amendment to that report to insert the words "certain chiropractors" in that part of the report which deals with the sponsorship of the two Initiatives. The chiropractor Initiative was not one sponsored by all the chiropractors of California.

Doctor Ruddock: The chairman of the committee will accept that amendment for the committee.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read pages 9 and 10 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of the redrafted resolution.

Dr. T. Henshaw Kelly: I second that.

The Speaker: Are there any remarks? If not, those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Ruddock read pages 11 and 12 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I move the adoption of this part of the report.

Dr. T. Henshaw Kelly: I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Ruddock read pages 13 and 14 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of this portion of the report.

Dr. Leo J. Madsen (Los Angeles): I second the motion.

The Speaker: Are there any remarks?

Dr. T. Henshaw Kelly: Mr. Speaker and Members of the House of Delegates: I want to speak briefly for the Council on the matter of the appropriation which was included in the matter of publicity.

The Council began this experiment on the 15th of March, as was stated in the report of the Council, based on the fact that legislation was quite active and we needed some sort of trained publicity assistant. That was carried on and was understood to be an experiment in the beginning. Two months is not long enough to permit anyone to find out what the results of a systematic campaign of publicity are, and the Council submitted in its report the material which has been obtained to date for the consideration of the House of Delegates.

At this moment, I stop speaking for the Council and begin speaking just as Doctor Kelly, to say a few words as to my own feelings in the matter.

The office of the Association is a very busy place these days, and has been for some time and I think is going to be quite busy for some time more. I am not at all unmindful of the ability of Doctor Warnshuis to do publicity work in the manner that a physician who has not had newspaper experience can do it. I am mindful, from experience with publicity work not only in the State Association but in the San Francisco County Medical Society, not where we had a publicity man but where I tried to do it in conjunction with some of the newspapermen of the city who were working for the newspapers, of the difficulties involved in that job and the immense amount of time it requires to maintain any systematic publicity.

I do not believe the Association would be committing itself to permanent large expenditures, without any knowledge of the results of the publicity, without any ability to discontinue them later if it found the money spent was not bringing the necessary or the desired results. But it is perfectly evident to me that a man who is trained in newspaper work can accomplish things in the matter of handling newspapers, can make contacts throughout the State which are very difficult for a man to do who has a multitude of other things to do which are of prime importance to him and to the Association for which he works.

I am not unmindful of the fact that I am one of the chief yellers for economy in the matter of a lot of varied expenditures, the results of which are not always measurable, but it is my own opinion, which I often see smacked down with due promptness, that we could do well to attempt for the next year a systematic campaign in the State, a campaign which would require, as the past few months' campaign has required, a very full day's work on the part of our publicity representative and the interruption of many of his nights.

We have in the office of the Association at the present time a large amount of material which is already accumulated from the press of the State which is now accepting the services we send out from the office of the Association. There are some seventy-nine papers in the State which are using this service at the present time, the service having been in existence only two months. These papers have a circulation of 1,698,000, which is a very extensive circulation in the state of California at the present date. In a short time, if the service develops according to expected schedule, our circulation, our ability to reach the people of California, particularly in the smaller communities, will be greatly enhanced. I wish to put those figures before you in order that, before this recommendation of the committee is accepted, you have those matters in mind when you vote on it. (Applause.)

Dr. George N. Hosford (San Francisco): It appears to me that is one of the most important ones that could possibly be made at this time. I feel it is sufficiently important to demand an additional assessment from each one of us, and that it should still be carried on. (Applause.)

Dr. Carl R. Howson (Los Angeles): As I understand it, the expenditure of this money is not mandatory on the Council unless this body authorizes the

Council to have that. It seems to me the experiment is well worth trying. We spent $15,000 fighting the cultists last fall, and if we had had a little more publicity in advance and established a little better relations maybe we would not have had to spend quite so much.

Dr. John H. Shephard (Santa Clara): There is an old saying that it pays to advertise, and if you do not believe it just look and see what the little fellows in Massachusetts did by advertising the upside-down stomach. That was carried on through newspaper work.

I think this is one of the most valuable suggestions the Council has given us for a good many years. The only criticism I have to make of it is that they were entirely too conservative. Instead of asking for $3,000 for publicity work, I wish they had asked for $30,000. (Applause.)

Dr. Lowell S. Goin (Los Angeles): I move to amend the motion now before the House by striking from the motion that part which requires the repeal of the $3,000 appropriation.

Dr. L. Henry Garland (San Francisco): I second the motion.

The Speaker: Are there any questions? Are you ready for the question? Those in favor of this amendment will say "aye"; opposed, "no." The motion to amend is carried.

The question is now upon the adoption of this part of the report as amended. Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read paragraph 1 of page 15 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; those opposed, "no." It is carried.

* * *

Doctor Ruddock read paragraph 2 of page 15 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I move that this portion of the report be adopted.

Dr. T. Henshaw Kelly: I will second the motion.

The Speaker: Are there any remarks? All those in favor say "aye"; those opposed, "no." The motion is lost.

Doctor Ruddock read page 16 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move the adoption of this portion of the report.

Dr. C. A. Dukes (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Ruddock read pages 17 and 18 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move the adoption of this resolution.

Dr. Henry J. Ullmann (Santa Barbara): I second the motion.

Dr. T. Henshaw Kelly: There are really two things involved. The committee made a recommendation there and also moved the passage of a resolution which dealt only with a small feature of that section of the Council report. Did the Reference Committee mean to approve the report of the special committee that the Council had on survey of legal expenditures, and does it also mean to move the adoption of the resolution that the Council offered dealing with suits started outside the Council's jurisdiction?

Doctor Ruddock: Yes.

Doctor Kelly: I ask the question of the Speaker, should there not be two motions?

The Speaker: Is there any objection to considering these two together? If there is not, we can so consider them.

Are there any remarks? Those in favor of adopting this part of the report will say "aye"; opposed, "no." The motion is carried.

I think it would be proper right now to ask the General Counsel to rise and make a bow. (Applause.)

* * *

Doctor Ruddock read page 19 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move, Mr. Speaker.

Dr. Henry J. Ullmann (Santa Barbara): I second the motion.

The Speaker: It has been moved by Chairman Ruddock, and seconded by Doctor Ullmann that this resolution do not pass.

Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Ruddock read pages 20 and 21 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of the recommendations and the amendment.

The Speaker: Was this amendment presented before?

Doctor Ruddock: It was presented by Doctor Kelly Monday night.

The Speaker: There is no material change.

Dr. Oscar Reiss (Los Angeles): I second the motion.

The Speaker: It has been moved and seconded that this part of the report, including the by-law, be adopted.

Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read pages 22 and 23 of the report of Reference Committee No. 2.

Doctor Ruddock: I move the adoption of the governing procedures and rules as recommended by the Council.

Dr. E. Eric Larson (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Ruddock read page 24 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. Fred B. Clarke (Los Angeles): I second the motion.

The Speaker: You have heard the motion. Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read pages 25, 26, and 27 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of this resolution.

Dr. W. T. Webber (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 28 of the report of Reference Committee No. 2.

Dr. Ruddock: Mr. Speaker, I so move.

Dr. Henry J. Ullmann (Santa Barbara): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Ruddock read page 29 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move the adoption of this portion of the report.

Dr. C. A. Dukes (Alameda): I second the motion.

The Speaker: Are there any remarks?

Dr. T. Henshaw Kelly: I would like to suggest, if Doctor Ruddock can accept an amendment to the recommendation of his Reference Committee, that that be worded so that when the fee schedule is submitted to the Council to use as a basis for negotiation with the Industrial Accident Commission it will have a little more authority of the House of Delegates behind it, so that it will be the action largely of the House of Delegates rather than just a tentative fee schedule by which the Council dickers with the Industrial Accident Commission.

I have not had time to think of the wording of the amendment we could make to that, but so that it might be transmitted to the Council as a tentative fee schedule to use in negotiating with the Industrial Accident Commission, with the Council given the power by the House of Delegates to fix the schedule when a satisfactory place in the negotiations is reached.

Dr. Irving S. Ingber (San Francisco): I do not quite understand the procedure of having the attorney of the California Medical Association use that fee schedule as a basis of negotiation. What does that mean, that whatever agreement they shall come to that shall be the fee schedule? We have presented a coördinated fee schedule and a very fair fee schedule, and what basis is there to accept it here or reject it? That should be the fee schedule for industrial work in roentgenology.

Doctor Ruddock: As an explanatory remark from the committee in regard to their recommendations, I will state there were several hearings held in regard to this matter, and it was felt it would be wrong to have the House of Delegates, which only meets once a year, to freeze a fee schedule which, after certain negotiations were held with the Industrial Accident Commission, should be changed as to certain items. So we wished to submit this fee schedule as a minimum schedule to the Council for its negotiations with the Industrial Accident Commission to attempt to adhere to it in every respect where they can, but they may have to change certain items.

Dr. Irving S. Ingber (San Francisco): I am satisfied with what Doctor Ruddock said, if he will include the word "minimum."

Doctor Ruddock: I will accept that.

The Speaker: Are there any other remarks? If not, those in favor of the motion will say "aye"; those opposed, "no." The motion is carried.

* * *

Doctor Ruddock read pages 30 and 31 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of this resolution.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read page 32 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move.

Dr. William H. Kiger (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

Doctor Ruddock: I now move the adoption of the Council report as a whole as amended.

Dr. E. Eric Larson (Los Angeles): I second the motion.

The Speaker: It has been moved and seconded that the report of the Council as a whole be adopted as amended.

Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 33 of the report of Reference Committee No. 2.

Vice-Speaker Graves assumed the chair.

The Vice-Speaker: Will someone second the motion?

Dr. Morton R. Gibbons (San Francisco): I second the motion.

The Vice-Speaker: Are there any remarks? All those in favor signify by the usual sign; contrary. So ordered.

The Speaker resumed the chair.

* * *

Doctor Ruddock read pages 34 and 35 through item (7) of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move that this portion of the secretary's report be approved.

Dr. Morton R. Gibbons: I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read page 35, beginning with item (3) "Association Activities," and pages 36 and 37 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I move the adoption of the secretary-treasurer's report.

Dr. Morton R. Gibbons (San Francisco): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 38 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. Leo J. Madsen (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

Doctor Kress, give us a bow. (Applause.)

* * *

Doctor Ruddock read page 339 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of the report of the general counsel.

Dr. F. L. MacPherson (San Diego): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 40 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I move the adoption of the various reports of the district councilors and councilors-at-large.

Doctor Van Zwalenburg (Riverside): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 41 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move the adoption of this portion of the report.

Dr. Leo J. Madsen (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read pages 42 and 43 of the report of Reference Committee No. 2.

Doctor Ruddock: I move that these two reports be approved.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 44 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

The House arose and stood in silence in memory of the deceased members.

* * *

Doctor Ruddock read page 45 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of this report.

Dr. Leo J. Madsen (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read pages 46, 47, and 48 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move the adoption of these reports.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 49 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. Leo J. Madsen (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read pages 50, 51, and 52 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I move that all these various reports be adopted.

Dr. Oscar Reiss (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read page 53 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. A. J. Scott (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 54 of the report of Reference Committee No. 2.

Doctor Ruddock: I so move that this be adopted.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read page 55 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. Leo J. Madsen (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Ruddock read page 56 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Doctor Ewer (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." It is carried.

* * *

Doctor Ruddock read page 57 of the report of Reference Committee No. 2.

Doctor Ruddock: Mr. Speaker, I so move.

Dr. E. Earl Moody (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye." Carried unanimously.

Doctor Ruddock: This is the end of the report.

Respectfully submitted by Reference Committee No. 2.

John C. Ruddock
W. W. Roblee
C. Kelly Canelo

* * *

Mr. Speaker, I now move the adoption of the report of Reference Committee No. 2 as a whole, as amended.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried. (Applause.)

* * *

Dr. Lowell S. Goin (Los Angeles): Mr. Speaker, I now move that the House recess for five minutes.

Dr. William R. Molony (Los Angeles): I second the motion.

The motion was carried, and the House recessed for five minutes.

* * *

Report of the Committee on Public Policy and Legislation

The Speaker: We will now hear from Dr. J. B. Harris of Sacramento, chairman of the Committee on Public Policy and Legislation.

Dr. Junius B. Harris: Mr. Speaker and Members of the House: The legislature convened on January 7 and was in session until January 26 for the so-called first half of the present session. During this period 3,627 measures were introduced. The legislature then adjourned until the fourth of March, the theory in this State being that during the recess period the legislators would have an opportunity to discuss proposed laws with their constituents. However, this did not work out in actual practice, as so many bills were introduced in the closing hours of the first half of the session that many of them were not even printed and available for perusal until almost time for the legislature to reconvene. As a matter of fact, some of them were not printed until ten days after the members had come back for the second half of the bifurcated session.

Since the legislature reconvened, 160 more additional measures have been introduced, bringing the total to 3,781 bills. It was necessary for your committee to peruse each one of these measures and to ascertain their relation to questions of public health. We have found 109 that fall in this classification. Not all of them are concerned with the practice of medicine, in which we are interested, but nevertheless we must carefully watch all measures to health committees, as they may easily be amended into a form that will have special importance for us.

Your committee has also been very alert in watching all measures which had to do with the powers and duties of supervisors. This session of the legislature has established an all-time high in the introduction of skeleton bills. There have been introduced in the Assembly alone 500 skeleton bills, and almost 300 in the Senate. We have never been so baffled and deluged with such a number of skeleton bills. A skeleton bill is one that simply has a number introduced on a certain date, giving the author's name and a title. For instance, an act to amend the State Medical Practice Act, Section 1——, 2——, 3——, and on down the line, so that any sort of clothing can be dressed upon this framework. They are the most dangerous form of bills that advocates are confronted with. There are no lobbyists in the medical profession; they are advocates.

Each day we must check over every one of these skeleton bills. There are twenty-four committees in session now holding hearings upon our bills, those in which we are interested. These meet in the early morning. My first one meets tomorrow morning at nine o'clock. They meet in the afternoon upon the daily adjournment of the legislature, and they meet at night. In addition to attending to these committee meetings, we must watch procedure on the floor of the Assembly and the Senate, reminding you of the well-known paperhanger who had one arm and the hives. (Laughter.)

The work that has been done during the past two years by our members in contacting their legislators has been very fruitful. We find that practically every legislator has been seen by his family physician or local medical society representatives before he came to Sacramento. This is a fine piece of work, and those of you who have been so active in doing this really constructive thing are to be commended.

In this connection, we have been very fortunate in the fact that one of our members, Dr. C. Glenn Curtis, was able to render very special service.

I want to say that both Speaker Craig and Lieutenant-Governor George Hatfield were very kind to us in courtesies extended.

It is too late for me to report specifically upon bills of which I have a list here. I want to tell you about our Assembly Bill No. 954. This bill was introduced by Assemblyman Clifford Kallam of Watsonville. It was prepared under instructions of our counsel, and it gave a definition of indigency. It told just who were indigents, in other words, who were entitled to admission to county hospitals. We tried to stir up interest in this bill among hospitals, among taxpayers' groups, and civic organizations. They all promised they would be there. They were given a week's notice, and not one of them showed up, except one representative of the hospitals, who sat there and never opened his mouth. Of course, it was no place for your chairman to make a presentation. It was soon labeled a bill put in by the medical trust emanating from Chicago, the home of all rackets, and one representative of the Farm Bureau offered to read an article from *The Journal of the American Medical Association*. He never got around to that, however, but they all hopped into the game—the farmers, the Grange, the Parent-Teachers—and then a lot of self-appointed do-gooders. They told just what a terrible bill it was, that they needed their county hospitals and they did not want to stigmatize their children and dependents when they had to go to the county hospital by calling them paupers. So that was sunk without trace. It was a shame that those who should have been more actively interested in that bill did not come to our support.

We had quite a little contest and quite a little aftermath on Assembly Bill No. 1918 and Assembly Bill No. 2158, introduced by Mr. Clark of Long Beach. He is no relation to Dr. Fred Clarke of Long Beach, because he has no "e" after his name. This bill made it possible for an attorney, possibly one known as an ambulance chaser, to go into your hospital and grab off any of the records, x-rays, laboratory reports, and everything else he wanted, and take them into court or use them in any way he saw fit, not only as one bill had it in industrial accident compensation cases, but in the other bill any case where a suit for damages was pending or contemplated. This was heard before the insurance committee, and of course we were a little off our own hill. However, after many of the attorneys told of the glories of the bill and we looked about the committee (there were nine from the committee, and five of them were attorneys at law), I saw I had no chance of making a presentation from the legal side, so we took it on from the ethical side. I was the most surprised fellow in the world when they voted to table the bill. Garibaldi, one of our good friends, said he held his nose when he voted with me. However, I told them that bill violated the age-old confidence that exists between doctor and patient, and that it also was a very good spot to start malpractice suits. One of the young attorneys said, "Doctor, this is my first experience here in the Assembly, and I want to learn all I can. Just how could that start a malpractice suit?" I told him I was not going to put any beans in his nose. (Laughter.)

We have some wild ones, but the wildest of all the uncurried ones is one called Assembly Bill No. 2397, by Mr. Heisinger, on which, upon petition of 25 per cent of the residents of a county, the supervisors can go into the hospital business. They can build any sort of a hospital, admit whom they please regardless of their ability to pay, and they can also lease existing quarters. This bill will be heard tomorrow at five o'clock, and I will be there. . . .

We had our old friend the dog bill come up again, the antivivisection measure. They changed the scenery quite a bit on me this year. . . . They brought up a couple of Hollywood blondes. I thought I was sunk. They had these girls in hiding until the day of the hearing, and in they came with the queen bee, who is putting up the money for this bill. She was still the ringmaster, and these girls—you should have heard them go. We had a lot fun out of it.

Well, we thought the girls were better dancers than they were orators, and so forth, and we went round and round with it until one of the orange-mustached cultists got pretty sore and hopped up and said, "This is a very serious thing." You know—the love of our pets, and saving our little doggies. After quite a little comedy we had the bill tabled.

The girls did not go home. I saw them around there, and of course I knew there was something in the offing. They kept on working and kept on working. You know, there is in the legislature a method of getting a bill out after you have killed it upstairs in the committee room. They can sign them out. They sign them out simply by voting, and a majority of those present at any one session voting to bring a bill off the table can put it right on the floor and there vote on its passage. I would just like to read you what happened to the bill as given in the official Journal of May 10.

Mr. Wagner, the butcher from Alameda, who slaughters unborn veal, but loves a dog (laughter); we told him about it. They had the girls there, and the house was all set for the Mother's Day ceremony. Things were pretty mellowed up to bring out a humane pound act. I quote:

> "Mr. Wagner moved that Assembly Bill No. 2401 be withdrawn from Committee on Public Health and Quarantine, and placed on file for second reading.
>
> "The question being on the motion by Mr. Wagner to withdraw Assembly Bill No. 2401 from Committee on Public Health and Quarantine, and place on file for second reading.
>
> "Further consideration of the motion by Mr. Wagner deferred until one o'clock and thirty minutes p. m.
>
> "At eleven o'clock a. m., by order of the Speaker, the Assembly was declared at recess for the purpose of conducting Mother's Day exercises."

That gave Mr. Wagner of the Butchers' Union about an hour and a half to work the floor while all mellowed on Mother's Day, and throw in a few pets for good measure. After they got through with the Mother's Day program—

> "Further consideration of the motion by Mr. Wagner to withdraw Assembly Bill No. 2401 from committee.
>
> "The question being on the motion by Mr. Wagner to withdraw Assembly Bill No. 2401 from Committee on Public Health and Quarantine and place on file.
>
> "Demand for previous question." Several of the members asked for the question to be put.
>
> "The question being put: Shall the main question be now put?
>
> "Demand for previous question sustained.
>
> "The question being on the motion by Mr. Wagner to withdraw Assembly Bill No. 2401 from Committee on Public Health and Quarantine and place on file for second reading.
>
> "The roll was called." . . .

Anyhow, the roll was called, and they answered to their names, and poor old 2401 was sunk by a vote. They got seventeen votes at that, and we got the rest. So we are through with the antivivisection bill for this session.

I might say that we had Professor Ivey's complete exhibit from the Century of Progress in storage in Sacramento. We had the store all rented where we were to put this exhibit up had we met with very determined opposition. . . .

There is also a hearing tomorrow on the companion bill to Senate Bill No. 471, and that is the bill that

Doctor Ruddock's report spoke of. That bill has been introduced since I came here, and I was told about it over the phone. They made a special order of it, and it will be heard tomorrow night at eight o'clock.

Since I came here, there has been introduced in the Assembly a companion bill to Senate Bill No. 454, which is the Committee of Six's compulsory health insurance bill. It is known as Assembly Bill No. 1097, and was introduced by Doctor Anderson. He is a Ph.D., a very fine fellow, a man you can talk to, a very level-headed gentleman, well educated, and very human. He introduced this bill, and I do think we have a better chance of moving the bill here than we had over on the Senate side. I do not know. The bill came in after I got here, and I have not talked with any of the members there. . . .

I know many of you have the bills, and I told you of some errors that were in this bill due to the confusion of getting in the amendments. There is an error on page 5 of this bill, Section 31. Those of you who have it, turn to page 5, Section 31, lines 42, 43, and 44, and you will find after the word "years" all the other matter stricken out. That should stay in. On page 22 of this bill, line 3, you will find, "when the annual net income of natural persons is made," striken out. That should stay in. Those are the errors in this bill.

I knew Assemblyman Anderson was going to introduce this bill. He said he was going to accept all the amendments and was going to have this bill come up to publicize this whole matter. They wanted to hear from all sides, and he said, "I will accept all amendments. I will talk to the street sweeper; I will talk to anybody about this bill." He wanted to chide them a little bit on the handling of that bill on the Senate side. Of course, our hindsight is better than our foresight, and we can all be grandstand quarterbacks after we see what has happened to the other fellow. At that, I think it was a good thing to take that popular attitude, not hiding anything, not seeming to conceal anything at all, coming right out and telling them all about it, laying the cards on the table and not giving it the rush act.

Some of the boys thought that bill was hurried too much over on the Senate side. Well, it is hurried because we only have a few days left. The money for the legislators will run out on the 19th. That is just four more days. . . .

We have it figured out that if the Assembly handles all the bills on its files now they will have to handle forty-two bills a day, and the Senate will have to handle over thirty a day. So you know they will be shoveled out there pretty fast.

Talk about a busy telephone switchboard. You want to be over there on the last hectic days of these sessions and try to keep track of things.

What worries me is that I heard someone here was to introduce a resolution or another "Whereas," that they wanted to rescind the action of the Los Angeles meeting and rescind the action on compulsory health insurance. For heaven's sake, whoever intends to do that, please take a walk up to Yosemite Falls, or some place else. Do not do that! That would simply wreck our whole program, and all the other legislation we have pending. It would be a terrible thing to do that. It would make us the laughing stock of the whole State, and those of us who have to work there and live with these legislators would be passed up like a white chip. We would not have a chance with them. (Applause.)

Do not think they are passing our legislation and befriending us because of any special love they have for the medical profession. They know we are a pretty compact organization, and they listen to action. They can smell action. They know how many votes we have and the influence we have, and that is why they vote with us. They will tell you so, the honest ones. When fraternal benefit societies come up there and talk to them, they know there are 30,000, 40,000, or 50,000 votes, and they listen to them. I would be afraid to stick my sun-burned brow in that legislative hall if they got one inkling up there that we were divided on any of our legislation, and especially on anything that is as important and as controversial as this 454 or 1097.

The Speaker: A motion to receive this report of Doctor Harris is in order.

Dr. John C. Ruddock: I so move that the report be received.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Report of Reference Committee on New and Miscellaneous Business*

We shall now have the report of the Reference Committee on Resolutions and New and Miscellaneous Business, of which Doctor Chandler is chairman.

Doctor Chandler: I beg leave not to report the original resolution where a substitute resolution was given, in order to save time.

The Speaker: If there is no objection, we will so proceed.

* * *

Doctor Chandler read Resolution No. 1 of the report of Reference Committee No. 1.

Doctor Chandler: I move the adoption of this resolution.

Dr. Leroy Brooks (San Francisco): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Chandler read Resolution No. 2 of the report of Reference Committee No. 1.

Doctor Chandler: Mr. Speaker, I so move.

Dr. Morton R. Gibbons (San Francisco): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Chandler read Resolution No. 3 of the report of Reference Committee No. 1, and Resolution No. 4.

Doctor Chandler: Mr. Speaker, I recommend the adoption of this resolution.

Dr. Dewey Powell (San Joaquin): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is carried.

* * *

Doctor Chandler read Resolutions Nos. 5 and 6 of the report of Reference Committee No. 1.

Doctor Chandler: Mr. Speaker, I move the adoption of this resolution.

Dr. C. A. Dukes (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Chandler read Resolutions Nos. 7 and 8 of the report of Reference Committee No. 1.

Dr. Chandler: I move the adoption of this resolution.

Dr. Lowell S. Goin (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Chandler read No. 9, the report of the Committee of Six, of the report of Reference Committee No. 1.

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* For greater ease in reference, the complete report of this committee is printed as a whole on page 85.

Doctor Chandler: Mr. Speaker, I recommend that the report of the Committee of Six, including the recommendations of the Reference Committee, be adopted.

Dr. George D. Maner (Los Angeles): I second the motion.

The Speaker: Are there any remarks?

Dr. Alson R. Kilgore (San Francisco): It is perhaps inevitable that in discussions leading to formulation of a plan of medical practice, which will so vitally affect all of us as health insurance, differences of opinion must arise among ourselves, differences of opinion based upon different attitudes toward the social philosophies involved, and differences of opinion based upon varying economic interests.

The Committee of Six, upon whose members has rested the very large burden of responsibility for the interests of the entire profession, has been particularly on the spot. They have worked under extreme pressure from March 3 until the present time, and it is perhaps not surprising that in the development of plans for this bill under that pressure that differences of opinion should have grown into actual personal bitterness.

I should like to ask the time of this Association for just a moment to express what I regard as the appreciation which this Association owes to the Committee of Six for the work they have done.

In the first place, few of us, I think, realize the tremendous amount of time-consuming, energy-consuming and worrisome work which the members of this committee have put in. There are very few of us who would work in our own interests as the Committee of Six has worked for us.

In the second place, it seems to me we should think very clearly about the responsibility of the members of the Committee of Six for some of the provisions present in the bills as they stand at the present time. Certainly, the inclusion in these bills of amendments exempting certain classes of the population, certain groups of the population, which were highly undesirable, are not the responsibility of the Committee of Six, and we should clearly recognize that fact.

We should also think more clearly than some of us have about the interpretations which the Committee of Six have placed upon some of the provisions which this House of Delegates laid down in its resolution adopted March 3, 1935. I refer particularly to the provisions having to do with medical control of a plan of health insurance. We in the medical profession realize thoroughly that only under medical control can a plan of medical service be satisfactory either to us or to the people we serve. We realize that to just the extent that medical control is lost to us and is turned over to any political body, to just that extent will the satisfactory nature of the service we render to the people included under the act be reduced.

But I am sure that a good many of us fail to realize how little the desirability of medical control appeals to people outside our own profession. They regard our demand for satisfactory medical control of a health insurance plan as a demand for selfish protection of our own interests in the medical profession. Many of you have seen an editorial, which appeared recently in the San Francisco *Chronicle*, by Mr. Chester Rowell, in which he stated in effect that Senate Bill No. 454 was framed by doctors, for doctors, to look out fully for their interests even at the cost of neglecting the interests of everybody else, and it was a bill of special interest and should be rewritten for that reason.

Evidently the basis of Mr. Rowell's statements along these lines was the fact that we had asked for a reasonable degree of medical control of practice under the act. If one who is so well informed on this subject as Mr. Rowell regards that request for medical control on our part as a demand for the protection of our own selfish interests at the expense of everybody else, what chance have we to convince the average layman in the present state of education of the public?

As I see it, an ideal expression of the provision which we laid down at our March meeting for medical control would be expressed by a commission consisting of at least a majority of members of the medical profession, and those members of the medical profession selected by us.

In face of the layman's attitude toward this matter of medical control, it would have been fatuous for the Committee of Six to have asked the legislature of this State to set up a plan of health insurance, for which the State would be financially responsible, and turn over to us any such degree of medical control as that. Even our best friends in the legislature would not have made themselves ridiculous by introducing such a bill.

I think the Committee of Six has done remarkably well to keep in Senate Bill No. 454 provision for at least two professional men on the Commission. In a similar way we have seen our proposal for a commission appointed from a list of nominees submitted by an impartial group, such as university presidents, and a commission with ten-year terms so that they would be free of politics, whittled down to a commission appointed by the Governor, with no strings except the advice and consent of the Senate, and four-year terms after the fashion of the ordinary politically appointed board and commission in this State.

If our Committee of Six had stubbornly stuck for medical control in the strict interpretation of the provision laid down in our resolution, they could not have carried out the broad mandate of this House to develop a compulsory health insurance plan. Strictly speaking, we asked the Committee of Six to do an impossibility. Believing that this House of Delegates wanted compulsory health insurance, I think we should clearly recognize that the Committee had no choice but to interpret more broadly than we intended perhaps in March the provisions relating to medical control. Only by sacrificing on this point was it practical to develop a health insurance plan at all.

If this House of Delegates sees fit to instruct its committee more specifically and in more detail, I have every confidence that the instructions will be carried out by its committee. But for its work up to the present time, the committee thoroughly deserves our thanks and appreciation, and I should like, after this motion is cared for, formally to move that the House express that appreciation by vote, and carried. (Applause.)

The Speaker: Are there any other remarks or further discussion on the motion to adopt this part of the report?

Those in favor say "aye"; opposed, "no." It is carried.

* * *

Dr. Alson R. Kilgore (San Francisco): May I move that this House so express its appreciation to the Committee of Six?

Dr. E. T. Remmen (Los Angeles): I move that the thanks of the House of Delegates also go to the Advisory Committee of Sixteen, who also worked very hard in that matter.

Doctor Kilgore: As long as we are making changes, may I include the general counsel.

The Speaker: It is seconded by Doctor Remmen of Los Angeles that an expression of appreciation be extended to the Committee of Six, the Advisory Committee of Sixteen, and the general counsel.

Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Chandler read Resolution No. 10 of the report of Reference Committee No. 1.

Doctor Chandler: Mr. Speaker, I so move.

Doctor Morton R. Gibbons (San Francisco): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Chandler read Resolution No. 11 of the report of Reference Committee No. 1.

Doctor Chandler: Mr. Speaker, I move its adoption.

Dr. Leroy Brooks (San Francisco): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

Doctor Chandler read Resolution No. 12 of the report of Reference Committee No. 1.

The Speaker: A motion to dispose of this part of the report is in order.

Dr. Leroy Brooks: I move the adoption of this part of the report.

Dr. Dewey Powell (San Joaquin): I second the motion.

The Speaker: Are there any remarks?

Dr. Junius B. Harris (Sacramento): I was going to ask Doctor Yoell, why send one of these messages to the Lieutenant-Governor and one to the Speaker?

Dr. Rodney A. Yoell (San Francisco): The idea, Doctor Harris, is that there is current in Sacramento among the legislators, and some force is being put behind the rumor, that only a small group of men in the organized profession wish the enactment of these bills as of that date, and there has been a request from some of the men in the legislature who are sponsoring these bills, in order to quiet once and for all and effectively challenge and deny that these bills are any other than the official expression of the ultimate governing body of this organization, that the presiding officers of the two branches of the legislature be notified directly that organized medicine is behind those bills as of that date.

Dr. Junius B. Harris (Sacramento): Neither one of those two gentlemen has anything to do with the passage of this bill. To make this thing more effective, send your messages to the senators who have helped, and then send your messages to the chairmen of the committees to which the bills have been referred. That is where you want the recognition to come in. I have a telegram to the California Medical Association instructing us what to do with this bill. On Assembly Bill No. 1097, send messages to the chairman on Service and Welfare. I offer that as an amendment.

Dr. Rodney A. Yoell (San Francisco): I will accept that.

Dr. Dewey Powell (San Joaquin): I will accept the amendment.

The Speaker: I think it will not be necessary to put that motion if Doctor Yoell accepts that amendment, leaving out the Speaker of the House and the Lieutenant-Governor and substituting the chairmen of the committees.

Dr. Henry J. Ullmann (Santa Barbara): Senator Williams was a pretty good friend of the profession on this bill, or has he changed on that?

Dr. Junius B. Harris (Sacramento): I have a telegram from Senator Williams. He wants to know what we are going to do, but he asks that we be given more time. He says, "How many more years do you want to have this under consideration?" We sent him an answer. I will read it to you if you wish to have it read.

Doctor Ullmann: Would you send him one, too?

Doctor Harris: I would send him one, too. He is chairman of the Interim Committee. He is not chairman of Public Health and Quarantines.

Doctor Ullmann: Does this resolution send him a telegram, too?

Doctor Harris: Some men will ask why he was left out. Senators Tickle and Difani, two members of the Interim Committee, sent us this telegram, and I heard by phone from Sacramento that Senator Williams was asked to sign the telegram, too, and he refused. After he refused to sign this telegram sent to the Committee of Six, he sent me a separate telegram asking what we wanted done with it, said, "Let's give it more time," and asked how many years. That shows his attitude.

Dr. R. A. Cushman (Mendocino): It seems to me that, due to the fact that Junius Harris is on the ground and is familiar with all the various aspects of this situation, working in the interests of the House of Delegates, that opinion should be asked of him as to the desirability of this kind of resolution being sent at this time. I would like an opinion from Doctor Harris on this point.

Dr. Morton R. Gibbons (San Francisco): I think we should ask the advice of Doctor Harris as to whom these telegrams should be sent, and follow that advice. He knows best about it.

Dr. Rodney A. Yoell (San Francisco): I would very willingly submit to the advice and counsel of Dr. Junius Harris. I think, however, the House of Delegates is entitled to know why, and designedly, the name of Senator Williams was left out of the first part of that resolution. Every vicious amendment designed to gut the purpose of that act was either sponsored by or actively supported by Senator Daniel Williams after he had signed the initial report. Every single thing done to throw an impediment in the way of the orderly progress of this bill has had the active support and coöperation of Senator Dan E. Williams, and your Committee of Six and certain members are in possession of knowledge that Senator Williams stands opposed to this bill and has represented special interests who, for various reasons, do not wish this legislation to pass.

There is another resolution introduced, which your committee can read, specifically directed to Senator Williams, but I think when Senator Difani and Senator Tickle have deliberately put their political futures in the balance and have loyally kept their pledges to organized medicine we owe them some consideration. Their pledge was that if the California profession developed a bill which was fair, just and equitable, they would accept and sponsor that bill. They accepted and sponsored that bill without the change of a single comma. They have also added that should this bill at any time be unacceptable to organized medicine up to the final moment of its passage, they as the authors and sponsors of the bill will pull that bill in the interest of organized medicine. The only impediment to the passage of the bill which rendered the bill in the amended form unacceptable to the profession were amendments introduced by Senator Williams.

How, in all honesty and fairness, can we thank in the same telegram the two men who have stood so loyally by us and at the same time thank the enemy who has deliberately tried to stab this thing to death?

The Speaker: It was moved by Doctor Brooks, was it not, and seconded by Doctor Powell of San Joaquin, that this resolution of Doctor Yoell be adopted as amended by him. Let us have a definite understanding as to whom these telegrams are to be sent.

Dr. Rodney A. Yoell (San Francisco): I move that the suggestion made by Doctor Harris, that instead of the Speaker of the Assembly and the President of the Senate, these telegrams be sent respectively to the people Doctor Harris has suggested, namely, the chairmen of the committees. I accept that amendment, and I believe Doctor Powell accepted that.

Dr. Junius B. Harris: Let me read the following telegram: "May 1, 1935. J. B. Harris. What do you and the House of Delegates want to do with Senate Bill 454 as amended? Would suggest further study of this important subject required. If so, how many years?"

I answered him: "House of Delegates, by Constitution and By-Laws, acts Wednesday night. Our committee insists Senate Bill 454 with amendments approved by it. Wire sent you signed by Kelly for committee states its position. Your committee's report to Senate states urgency of the problem Senate Bill 454 as above is the solution. No further delay required." I signed my name to it, and I sent a copy of that to Senator Williams. If you do not want to word it just the same, I would not thank him for his efforts, unless you want to get ironical. I would tell him what we think about the original 454.

The Speaker: Doctor Harris, there is another resolution to be presented in regard to Senator Williams.

Dr. Lowell S. Goin (Los Angeles): May the Los Angeles delegation have momentary recess for the purpose of caucus?

The Speaker: A motion is in order.

Doctor Goin: I move that the House recess for the purpose of allowing the Los Angeles delegation to caucus.

Dr. E. Vincent Askey (Los Angeles): I second the motion.

The Speaker: It has been moved and seconded that we recess briefly while the Los Angeles delegation caucus on this question.

Are there any remarks? If not, those in favor say "aye"; opposed, "no." The "Noes" seem to have it. Division.

Those in favor of recessing stand. The motion is carried that we have a brief recess.

After a five-minute recess, the House came to order.

* * *

The Speaker: The secretary calls attention to the fact that in appointing standing committees inadvertently the name of Doctor Ruggles Cushman was left off the Committee on History. It should be placed there.

* * *

The Speaker: We are voting on the adoption of this resolution presented to the committee by Doctor Yoell in regard to sending telegrams.

Dr. Rodney A. Yoell (San Francisco): Mr. Speaker, I rise to a point of information. I would request some authoritative member of the Los Angeles delegation to state whether they find this resolution objectionable, inasmuch as it complicates the situation.

If they understand this resolution is designed to endorse the bill with the vicious amendments in it, I would call their attention to the fact that the dates specifically mentioned are the dates the bills were introduced as they came from the Committee of Six without the vicious amendments in them. If the Los Angeles delegation feels—and we must be absolutely fair, and certainly the judgment of this House is sound—it would be better not to send this resolution, if they feel the resolution is not clear; if they thoroughly understand that that resolution calls for the endorsement of the bills only as they came from our Committee of Six, and that are subject to immediate poll; if any other amendment that comes in there is unacceptable to the Committee of Six. If they understand that, I would be willing to abide by their judgment and, at their request, I would withdraw that resolution.

Dr. Alson R. Kilgore (San Francisco): Point of information. May I ask, for the information of myself and the House, if the bills on the dates specified in this resolution are those which provide for the exemption of the dependents of the employee, and the reduction of the contribution of five per cent to two per cent of the payroll.

Dr. Rodney A. Yoell (San Francisco): Yes. The bill as amended as of May 7 was the final bill as it came from the last meeting of the Committee of Six. There is a difference in that bill as against the bill as finally introduced into the Assembly in 1097, the only difference being that that bill provides for two physicians on the Commission, and this bill does not. That is why we requested that the House endorse that bill of this date, with the reinstatement of two physicians on the committee, and the definition of auxiliary benefits to conform to the logical wishes and desires of the laboratory people and the x-ray people. That ought to be clearly understood, and I again ask the delegation if it understands that bill is the bill that came from the Committee of Six.

Dr. Lucas W. Empey (Placer): Is the bill which Doctor Yoell holds in his right hand a copy similar to that which various members of the Association have received? Is that exactly the same as the copy we received in the mail from the Committee of Six?

Dr. Rodney A. Yoell (San Francisco): Mr. Speaker, this bill is not the same as the bill that was sent broadcast throughout the State, inasmuch as the bracket of income has been cut from $3,000 to $2,400 a year, and inasmuch as only the employees and not dependents of employees come in the mandatory group, but every principle required by the Committee of Six and the resolution is in this book. This Assembly bill is exactly the same as this bill, with but one very important exception, and an exception which I do not believe could be tolerated by this House of Delegates, and that is the exclusion of the two physicians from the Commission.

I have in my pocket a telegram from Mr. Anderson, who introduced the bill, and who explained to me why the two physicians were off, in which he states he believes two physicians should be on that Commission, and he is willing to accept that amendment. That is why we said, in relation to 1097, the two physicians should go back on the Commission.

I want to make it perfectly clear that if this is unacceptable to the House, and it feels it will becloud the issue, we are perfectly willing to withdraw. The only reason for having this resolution put in is that there has been an express desire that the bills as they came from the final meeting of the Committee of Six should be endorsed by this House of Delegates, so that once and for all the argument that this bill does not represent the real wishes of organized medicine will be thoroughly defeated.

Dr. Daniel Crosby (Alameda): With the best intentions in the world, I think we have a very complicated telegram there. We wish to make acknowledgment of the coöperative effort in an insurance program. If the impression that the reading of that telegram leaves with this House of Delegates is as I find it, then the impression it will give when received in Sacramento is very likely to be somewhat complicated. It would appear that it would be an extremely wise thing, if we are seeking to make acknowledgment to these men for services we appreciate, to do it with greater simplicity, and avoid the complexity that may lead to misunderstanding and leave our red-headed generalissimo in Sacramento in a little safer and more peaceful position, and leave ourselves in a better position as well. (Applause.)

Dr. Lowell S. Goin (Los Angeles): Members of the House: With the consent of the Los Angeles delegation, I will reply to Doctor Yoell's specific question. The Los Angeles delegation understands completely that the bills referred to are the bills as of May 7 and as of May 10. The Los Angeles delegation is not, in any action it may now undertake, attempting to defeat those two bills. The delegation feels that since there has been an implicit promise at all times that if the bills finally proposed did not meet the principles laid down in a satisfactory manner, that the Committee of Six would withdraw the bills.

Since we have already this evening by two or three resolutions commended the Committee of Six, endorsed the subject-matter of the legislation, and reaffirmed the principles set forth in the April resolution, it would seem unwise or at least unnecessary to completely close the door by thoroughly committing ourselves with very commendatory and laudatory telegrams in this manner.

If Doctor Yoell wishes to withdraw the resolution, that will meet the wishes of the Los Angeles delegation as I understand them to be.

Dr. Rodney A. Yoell (San Francisco): Mr. Speaker, I defer to the sound judgment and wisdom of the Los Angeles delegation. With the consent of my second, I withdraw that resolution.

Dr. Dewey Powell (San Joaquin): I agree.

The Speaker: The resolution is withdrawn.

Dr. Leroy Brooks (San Francisco): I would like to hear a word from Dr. Junius Harris at this time in regard to whether or not we should send any telegrams, and if we send any, what the contents of them should be and to whom they should go.

Dr. Junius B. Harris (Sacramento): Mr. Speaker, it is a dangerous thing to send telegrams when you have a hen on the nest. (Laughter.) You do not know what they might hatch. Rodney, you know—bless his heart—thinks he is doing something right. If we would send that telegram, say, to Senator Tickle, and he would show Senator Smith the telegram, in three days some fellow would come along and hook something onto this bill I would not stand for and Rodney would not stand for. Then we would say, "Smith, we are against that."

"What the hell is the matter with you? Tickle showed me a wire three days ago where you were hot for it."

You have to be there to get those things to appreciate the damage you can do with a full heart, and all this stuff, but you get—well, you know. (Laughter.)

* * *

Doctor Chandler: The next and last resolution before the committee was another one introduced by Doctor Yoell.

Doctor Chandler read Resolution No. 12 of the report of Reference Committee No. 1.

Dr. Rodney A. Yoell (San Francisco): Mr. Speaker, I would request to withdraw that resolution.

The Speaker: If there is no objection, we will consider the resolution withdrawn.

* * *

Doctor Chandler: Your Reference Committee submits this report respectfully, and I move the adoption of the report as a whole as amended.

Dr. Daniel Crosby (Alameda): I second the motion.

The Speaker: It has been moved and seconded that the report of the committee be adopted as a whole as amended.

Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

* * *

The Speaker: At this time I want to personally thank the members of these two committees. They have done a tremendous lot of work. I do not know how they could have done it in the short time they have had. It is good work, and we appreciate it.

The Speaker: Is there any other new business at this time?

* * *

Dr. William R. Molony (Los Angeles): At this coming meeting of the House of Delegates of the American Medical Association there will come before it the election of a trustee, not confined necessarily to the western part of the United States, but by precedent some Fellow of the American Medical Association in that particular portion of the country is usually elected.

You realize that the Board of Trustees of the American Medical Association is a very important body. It transacts the business of the Association between the meetings of the House of Delegates. Of course, we know full well the importance of our own Council in this State, and the members of the Board of Trustees of the American Medical Association have a similar duty to perform, but for the forty-eight states of the Union. It is very important that a man be placed upon that board from the western portion of the United States who has had sound training in organized medicine, whose feet are upon the ground, and who has had a broad experience in medicine for many years.

Here in California we have such a man. At the present time the office is held by a doctor from the Northwest, but according to the American Medical Association by-laws he cannot be reëlected to a third term. It has been a great many years since a trustee has served the American Medical Association from California, and at this time I wish to present for your consideration a motion for this House to instruct the delegation from California to place in nomination on behalf of California, Dr. George H. Kress of Los Angeles. (Applause.)

Doctor Kress has served as a delegate in the House of Delegates to the American Medical Association.

In order for him to have additional strength in coming before the House of Delegates, it seems wise that this House should endorse and instruct the California delegation to present his name for their consideration. Therefore, I move that the delegates of this Association be instructed to present for the consideration of the House of Delegates of the American Medical Association as a trustee nominee from California the name of Dr. George H. Kress of Los Angeles, and that the delegates of this Association, individually and collectively, be instructed to act in accordance with the above in June, 1935, at Atlantic City, New Jersey.

Dr. George G. Reinle (Alameda): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." The motion is unanimously carried.

Introduction of President Peers

The Speaker: The next order of business is the presentation of the president. It is another case of "The king is dead; long live the king." While we are all very sorry and sad and tearful that old Bill Toland is leaving us, still, Bob Peers, God bless you.

The audience arose and applauded.

The Speaker: Doctor Toland.

President Toland: I would like the pleasure of pinning this badge on my good friend, Bob Peers. I know he will serve you like you have never been served. He is just a real fellow, and we are going to have a great time next year, although we had a fairly good time here. (Applause.)

The Speaker: Now where is Bill Roblee?

The Speaker pinned the badge of the Speaker on Speaker-Elect Roblee.

The Speaker: This is the saddest part of all.

Is there any other unfinished business, or any new business?

The Secretary: There is no unfinished business on your secretary's desk.

The Speaker: A motion to dispose of the minutes is now in order.

The Secretary: I would suggest, inasmuch as we have a competent stenographer, that the minutes as recorded by the stenographer, be edited by the Executive Committee and adopted.

Dr. T. Henshaw Kelly: I move that.

Dr. A. J. Scott (Los Angeles): I second the motion.

The Speaker: Are there any remarks? Those in favor say "aye"; opposed, "no." Carried.

We now stand adjourned.

The meeting adjourned at 1:05 a. m., *sine die.*

Edward M. Pallette, *Speaker.*

Certified as a true copy.

F. C. Warnshuis, *Secretary.*

REPORT OF THE REFERENCE COMMITTEE ON "REPORTS OF OFFICERS AND OF STANDING COMMITTEES"*

Mr. Speaker, House of Delegates: Your Reference Committee has received and carefully reviewed reports of all the officers, Council and standing and special committees submitted to it by the House of Delegates and submits the following report:

Functions of the Standing Committees

Your committee deems it advisable at this time to recommend to the House of Delegates that it give mature thought to the subject of appointment and election of numerous special committees.

The Constitution and By-Laws of the California Medical Association provide for various standing committees which in most cases can perform the duties of the special committees recommended by various resolutions in the House of Delegates. Your committee finds many of the reports of standing committees meager because their duties have been usurped by special committees. This causes a great many reports to be reviewed, and there is a lack of coördination, duplication of work, effort, and expense.

The committee recommends adoption.

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* See also page 67.

Report of the President

Your committee commends the activity of its president, Doctor Toland, as expressed in his report to the House of Delegates. It is seldom that any medical society is honored to have as its president a man with the sincerity of purpose whose entire endeavor is activated by the one ideal of raising the standard of the practice of medicine and championing the cause of the doctor. It is recommended that a standing vote of thanks be given Doctor Toland as a small appreciation of his year of service.

The committee recommends adoption.

The Report of the President-Elect, Dr. Robert Peers

His humbleness but reflects the sincerity and straightforward purpose of our new president. He states that he merely attended certain meetings; however, it is well known that his mere presence has a stabilizing effect on all meetings.

The committee recommends adoption.

Annual Report of the Council

During the year 1934 to 1935, it is apparent that the Council has had an extraordinary demand made upon it by many unusual matters that have arisen, coincident with a year of economic depression. The average doctor little realizes the sacrifices and untiring effort that each and every member of the Council has displayed during this past year, and the efforts that have been put forth to meet and decide issues that effect every member of the medical profession. The report as submitted is very full and takes up in meticulous detail all the problems that have been submitted to the Council during the past year.

The committee recommends adoption.

The Committee of Five

The report of the Committee of Five.

The Committee of Five created by the 1934 session of the House of Delegates at Riverside is bringing to completion a very comprehensive survey of the economic aspects of illness in California. The action of the House of Delegates upon the majority and minority reports of the Committee of Five, which reports were published in the minutes of the meeting of the House of Delegates, is known to all and resulted in the creation by resolution of the Committee of Six, charged with the task of coöperating with the Senate Interim Committee according to the principles set forth in that resolution passed at the special session of the House of Delegates in Los Angeles on March 2 and 3, 1935.

The report of the Committee of Five as submitted to the House of Delegates is entitled "Progress Reports Summary." Your committee wishes to call attention to the fact that the Committee of Five has to date spent $89,732.84, of which $30,649.92 has been appropriated and spent by the California Medical Association. The remainder of the sum spent has been appropriated by the State Emergency Relief Association. It is anticipated that approximately $3,000 will be necessary to complete the compilation of data now collected by the survey. The report to date continues and describes the methods of the collection of data, the preparation of the data for analysis, and the means of tabulation. This has entailed a great deal of work and the employment of a large personnel. The final report of this committee is not ready. The committee reports that it is unable to make a final report until analysis, conclusions and inferences be drawn from accumulated factual data.

Your committee recommends that the survey being conducted by the Committee of Five in response to the resolution passed by the House of Delegates at Riverside be brought to a close as the report states that the field work of the survey is now complete.

Your committee recommends that no more moneys be appropriated to the Committee of Five for survey purposes except as the Council of the California Medical Association in its judgment will authorize in order to close the survey and evaluate the material from a medical standpoint.

In order that the Committee of Five conduct this survey it was necessary that they employ expert economists for the purpose of accumulating accurate data and scientific interpretation of the same.

Your committee feels that the development of principles in the enunciation of actions to be taken is a prerogative of the Committee of Five and should not be usurped by various economists and laymen who have been employed by the Committee of Five to help accumulate the data.

Your committee feels strongly that the action and course of the House of Delegates should take into consideration the final report of the Committee of Five for every action which it may see fit to take; rather than reports, statements, and inferences, from the employed lay personnel of such committee.

It is recommended by your committee that the supervising director complete the compiling of the data accumulated. That he should draw his conclusions from such data and that this report should be submitted to the Committee of Five, who will then draw up its final report and conclusions and recommendations for action for the House of Delegates.

Your committee wishes to call your attention to the fact that up to and including the present all data, inferences, and enunciations of principles have come, not from the Committee of Five, but have emanated from the director of the survey and his staff.

Your committee wishes to recommend that the conclusions arrived at, the principles enunciated, the actions recommended, shall not be released until the final report of the Committee of Five, which will give the viewpoint of the doctor of medicine, has been filed with the Association.

The committee recommends adoption.

Initiatives No. 9 and No. 17

The Council should be commended in the effort that it made in defeating the Initiative ballots known as Initiatives No. 9 and No. 17. In November, 1934, the report of the Council states that $14,500 was spent in defeating this legislation. Many valuable lessons have been learned, and it is recommended that the Public Relations Committee make a study of the methods used and evaluated so that they can be made use of in future efforts of this character. The committee wishes to call attention to the valuable assistance given by the Woman's Auxiliary and the Public Health League, and recommends that the House of Delegates express its thanks to both these organizations in the following resolution:

Reference Committee No. 2—Resolution No. 1

Whereas, The Woman's Auxiliary of the California Medical Association and the Public Health League of California realizing the importance to the public and the medical profession in defeating the two initiative ballots proposed by certain chiropractors and naturopaths known as Initiatives No. 9 and No. 17 in November, 1934, and

Whereas, The Woman's Auxiliary and the Public Health League assisted the California Medical Association in its efforts to defeat this malicious legislation; therefore, be it

Resolved, That the House of Delegates of the California Medical Association convened in session in May, 1935, does hereby tender their thanks and appreciation to the Woman's Auxiliary and the Public Health League efforts in their behalf; and be it further

Resolved, That a copy of this resolution be spread upon the minutes of the California Medical Association and that a copy be transmitted to the Woman's Auxiliary of the California Medical Association, and the Public Health League of California.

The committee recommends adoption.

Legislation in Relation to Voluntary Health Insurance

In the report of the Council it is brought forth that the House of Delegates must consider the possibility that compulsory health insurance legislation may not be passed at the present session of the legislature.

The Council believes that the House of Delegates at this session should consider whether the Association should seek the passage of a bill to provide means whereby a voluntary system of health insurance might be instituted in California by component county societies of the California Medical Association if public demand renders it desirable to do so. In order to bring this matter before the House of Delegates for discussion, if it so desires, the Council presents the following resolution:

REFERENCE COMMITTEE NO. 2—RESOLUTION NO. 2

WHEREAS, At some later date, the California Medical Association or some of its component county societies may desire to develop plans for voluntary hospital or complete health insurance, and

WHEREAS, At the present time, the laws of California make this development very difficult and at the same time provide no direct control of such practice; therefore, be it

Resolved, That the Council of the California Medical Association is hereby instructed to secure, if possible, the passage of Senate Bill No. 471, when amended, so that in the opinion of the Council it will provide for the proper development and safeguard of voluntary health insurance plans in California.

Your committee recommends that an amendment or redrafted resolution be considered and adopted as a substitute for the original resolution.

REFERENCE COMMITTEE NO. 2—RESOLUTION NO. 4

WHEREAS, At some later date, the California Medical Association or some of its component county societies may desire to develop plans for voluntary hospital or complete health insurance, and

WHEREAS, At the present time, the laws of California make this development very difficult and at the same time provide no direct control of such practice; therefore, be it

Resolved, That the Council of the California Medical Association is hereby instructed to secure, if possible, the passage of a bill so that in the opinion of the Council it will provide for the proper development and safeguards of voluntary health insurance plans in California.

The committee recommends adoption.

Secretary-Treasurer

Your committee commends the Council of the California Medical Association in being able to secure the services of Doctor Warnshuis as secretary and treasurer. Because of his numerous contacts with various component societies, and his wide experience, he has already become a very valuable asset to the Association.

The committee recommends adoption.

Finances

Your committee desires to call to the attention of the House of Delegates the statement of the Council that the expenditures of the Association this year have been unusual and large and have cut deeply into its reserves and it is evident that the Association cannot continue on an unchecked course of expenditures such as characterize the course in the last year. The Council suggests that serious thought be given by the House of Delegates before any further expenditures unknown in amount at the time, are authorized by the House of Delegates outside of the usual control provided by the Constitution and By-Laws, and that the House go on record as supporting the Council in any further refusal to assume obligations or additions begun by members or component county units of the Association without consultation with or permission of the House of Delegates or the Council of the Association.

The Council of the Associaion considers the reestablishment of the 1933 financial statement of the Association funds of prime importance and calls the attention of the House of Delegates to the necessity of further calls upon the reserve funds of the Association now held by the Trustees Of The California Medical Association, a corporation, to defray expenses of the Association in 1935. This committee strongly endorses the position as stated by the Council, as the only other alternative would be the raising of dues.

The committee recommends adoption.

Budget

The Council submits the following budget for the approval of the House of Delegates.*

The budget as submitted is approved with the following changes:

That the Lane Library in San Francisco and the Los Angeles County Medical Association Library formerly known as the Barlow Library, be given the usual gift by the California Medical Association, in money, equal to 25 cents per member per library, in order to support these libraries in making available reference books to the doctors of California and assist them in distributing these references by package system. Both these libraries serve the medical profession throughout the State.

It is recommended that $3,000 budgeted to publicity estimate be disapproved, the reasons for which appear in the report of the Council on Public Education.

The committee recommends adoption.

Public Education

The creation and maintenance of a sound and informed public opinion in regard to matters in medicine, public health and preventive medicine are unquestionably obligations of this Association. The Council has approved, under the supervision of the Department of Public Relations, a program of lay-sponsored public meetings addressed by a corps of speakers selected from our membership who will present various aspects of medicine and its activities. Your Reference Committee desires that this part of the report be approved.

The Council reports that it has employed a publicity man to carry out a systematic plan of publicity contacting many California daily and weekly newspapers of the organized press. Your committee recommends that publicity through the organized press be approved in principle and recommends that the details of the program be worked out through the director of public relations and that other paid publicity services are not necessary and therefore should be discontinued.

The committee recommends adoption.

Dues

The Council recommends to the House of Delegates that the dues for 1936 be set at the present amount of $10. Your committee so recommends provided that no unbudgeted expenditures be ordered by this House of Delegates.

Legal Department

In the report by the Council there was created by resolution of December, 1934, a committee to survey the legal activities and expenditures for the preceding five years. This committee made a very thorough study and has submitted a report to the Council which was printed in CALIFORNIA AND WESTERN MEDICINE, April, 1935, page 321. The conclusions of this committee report are:

1. In no other State have the personal and collective interest of the members of the medical association been given as constant, expert and legal service as has the California Medical Association.
2. Our attorney has personal contacts that are invaluable to the California Medical Association and his many years of service in our behalf have given him an insight into our problems and a viewpoint such as few laymen possess.
3. The committee commends the legal department for its alertness and services rendered, and it recommends that it be continued along the same lines as heretofore have proven to be of such value to us all.

The committee recommends the following resolution:

REFERENCE COMMITTEE NO. 2—RESOLUTION NO. 3

POLICIES OF THE ASSOCIATION

WHEREAS, A special committee of the Council made a survey of the legal expense of this Association, and

WHEREAS, This special committee concluded that unnecessary legal expense was being brought about by hasty and injudicious actions, legislation and suits initiated by county societies or groups of members; therefore, be it

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* This budget was printed in the Report of the Council, in the June issue, page 482.

Resolved, That questions of policies, especially those having legal aspects, be carefully considered by county societies and that before final action is taken on any question it be referred to the district councilor and the state secretary for advice and counsel; and be it further

Resolved, That county societies and special groups shall secure approval from the House of Delegates or the Council before initiating any legal proceedings or legislation.

The committee recommends adoption.

Reference Committee No. 2—Resolution No. 4
DISCIPLINARY PROCEDURES

The following resolution is recommended by the Council:

Whereas, Disciplinary proceedings instituted against a member of a component county society may result in serious legal situations, involving large expense; therefore, be it

Resolved, That the Council be instructed to prepare a code of procedure to regulate and govern all disciplinary proceedings against members; and be it further

Resolved, That the component county societies are hereby urged to incorporate the provisions of such code, when formulated, in their respective constitutions and by-laws; and be it further

Resolved, That the attention of the component county societies be directed to the necessity of compliance in their respective constitutions and by-laws, with all obligatory provisions of the Constitution and By-Laws of the California Medical Association in reference thereto.

Your committee finds that a redrafted resolution referred to Reference Committee No. 1 will be presented to the House of Delegates and covers completely the resolution as proposed by the Council. Your committee recommends that this resolution *do not pass.*

Postgraduate Courses

The Council recognizes that as an Association we have responsibility to provide for members reasonable opportunity for postgraduate study. Your committee strongly endorses this policy.

In lieu of Section 20, Chapter 5, of the By-Laws, the following amendment is submitted as a substitute for the amendment as printed on page 40 of the May, 1929, edition of the Constitution and By-Laws to read as follows:

Chapter V, Section 20, of the By-Laws of the California Medical Association

Committee on Postgraduate Activities

The Committee on Postgraduate Activities, of which the secretary-treasurer shall be an ex officio member, shall use its best efforts to promote the postgraduate and clinical courses and instruction among the component county units of the Association.

The supervision of such postgraduate and clinical courses and instruction shall be carried on through the central offices of the Association, the Council being empowered to defray travel expenses of guest speakers and other costs incident to such work to such amount as in the judgment of the Council may be deemed proper. In the development of such postgraduate and clinical courses and instruction, it is stipulated that the component county societies, through their constituted representatives, shall coöperate with the Standing Committee on Postgraduate Activities and shall also arrange to bear a proper proportion of the expense thereof of such amount as may be mutually agreed upon.*

The committee recommends adoption.

Procedure of Reference Committees

The Council, in order to reduce confusion and expedite the work of the Reference Committees in the House of Delegates in the future recommends the adoption of the following rules governing the work of the Reference Committees:

Instructions to Reference Committees and Rules Governing Introduction of Resolutions and Reports in the House of Delegates

Enactment: The House of Delegates creates the following procedure and rules governing the introduction of resolutions and reports of officers and committees and their consideration by the Reference Committees of the House of Delegates:

Introduction of Resolutions:

1. All resolutions introduced in the House of Delegates should be presented in triplicate and signed.
2. Delegates contemplating the introduction of resolutions will expedite the deliberations if such resolutions are sent to the Association's secretary thirty (30) days before the House convenes. They will be printed in the Pre-Convention Bulletin for the advance information of delegates.
3. In presenting a resolution the delegate shall read only the context of the resolution and may have five minutes for explanation, but not argument. The Speaker will then refer it to the proper Reference Committee, if the resolution is in order, and the secretary shall make every possible effort to place copies of the resolution in the hands of each member of the House of Delegates before the next meeting of the House.
4. The introducer and any delegate interested in a resolution should appear before the Reference Committee to present facts and arguments. Further discussion is then to be deferred until the Reference Committee submits its report and recommendations to the House of Delegates.

Reference Committee Procedures:

1. Reference Committee chairmen will be given a portfolio containing a copy of all resolutions, reports or matters, with suitable designations, referred to their committees at the close of each session of the House of Delegates.
2. Reference Committee chairmen, before the adjournment of each session of the House of Delegates, shall announce the time and place of the meeting of their committees.
3. Delegates are requested to advise Reference Committee chairmen of their desire to appear before a committee and obtain an appointment.
4. Reference Committees will review and consider each resolution, report, and all matters referred to the committees and may approve, disapprove or amend any offered resolution or offer a substitute resolution for it.
5. The president, Speaker, Councilors and secretary shall be available for consultation and advice, and the Reference Committees should avail themselves of their services.
6. At the conclusion of a hearing and the consideration of resolutions or questions, the Reference Committee shall observe the following procedure when reporting to the House of Delegates:

(*a*) The report of each Reference Committee shall be in writing and signed by each Reference Committee member present and acting. The original resolutions and questions shall be set forth in the report in their proper places.

(*b*) The committees shall briefly summarize their findings and comments on each resolution or question.

(*c*) The committees shall recommend the following action:

(1) That the resolution be submitted without recommendation.

(2) That the resolution be adopted.

(3) That an amended or redrafted resolution offered by a Reference Committee be considered and adopted as a substitute for the original resolution.

7. The Reference Committee to whom reports of officers and standing or special committees are referred shall submit a written report signed by each member of the committee present and acting.

The following findings and comments shall be set forth in its report to the House of Delegates:

(*a*) A brief summary and comment emphasizing the outstanding features of the address or report.

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* This amendment changes the name from the "Committee on Extension Lectures" to "Committee on Postgraduate Activities." This amendment clarifies the financing. This amendment places the carrying out of this program in the hands of a standing Committee of the California Medical Association, and makes the office of the secretary-treasurer the clearing house for this work.

(*b*) Explanation as to what the standing committee's recommendation entails.

(*c*) Recommending the action to be taken; namely, to approve, adopt or disapprove or amend.

8. Delegates may then make such motions or arguments, and the House of Delegates may take such action, as are permitted by parliamentary rules and the Constitution and By-Laws.

The Council of the California Medical Association recommends that the House of Delegates adopt these governing procedures and rules.

The committee recommends adoption.

American Medical Association Board of Trustees Resolution

The Council recommends to the House of Delegates the adoption of the following resolution:

WHEREAS, Because the large areas and the long distances of the constituent states on the Pacific Coast make it practically impossible for one trustee to maintain intimate contact with the medical organizations of these states, and

WHEREAS, For similar reasons one trustee is unable to visit these several states and advise them in regard to Association policies and activities, and

WHEREAS, Such intimate affiliations would enhance the work of the American Medical Association and also that of the State Association; therefore, be it

Resolved, That the Reference Committee on Amendments to the Constitution and By-Laws prepare the following amendment to Article 6, Section One of the Constitution:

Strike out the word "nine" and insert therefor the word "eleven."

Thereby increasing the number of trustees from nine to eleven; and, be it

Resolved, That the House of Delegates adopt the rule that one trustee shall be elected from the Fellows in California, one from the Mid-West or southwestern part of the country.

At present time there is only one trustee in the territory west of Chicago, and it is impossible for him to represent such an extensive territory. It is quite evident that the present representation is not an equitable one.

The committee recommends adoption.

Report of the Committee on Industrial Accident Practice

The report of the Committee on Industrial Accident Practice summarizes the various contacts had with the Industrial Accident Commission.

Up to the present date it is shown that there is at this time a persistent effort to lower fees now being paid for this service. There is an evident need for a more unified action on the part of our profession in order that the seemingly increasing tendency shown by members of our profession to split fees, accept reduced contract services, to pad bills, prolong illnesses and otherwise conduct themselves in a manner which should be considered in the popular parlance of the day as "chiseling" and unethical.

Your committee endorses the adoption of the resolution as passed by the Council as of March, 1935.

REFERENCE COMMITTEE NO. 2—RESOLUTION NO. 6

WHEREAS, It has come to the attention of the California Medical Association that effort is being made by the State Compensation Insurance Fund and other insurance companies writing Workmen's Compensation Insurance, to reduce fees for industrial accident service; and

WHEREAS, In the past, the fee schedule of the Industrial Accident Commission has not been adhered to in all instances; and

WHEREAS, The Industrial Accident fee schedule provides such moderate charges for professional services, rendered in accident cases, that to reduce the same would result in great injustice not only to the medical profession, but particularly to citizens suffering from industrial injuries, in that such excessively low fees would undoubtedly lead to inadequate service, thus making for longer temporary disability as well as more and greater permanent disabilities among injured workmen with resultant money loss to insurance companies, that would be in excess of the sum saved through lower fee table for professional services; and

WHEREAS, Certain physicians and surgeons, some being members of the California Medical Association, have been guilty of cutting fees below the official fee schedule, and/or have made a practice of underbidding for industrial accident work, other members of our profession and/or have been guilty of rebating to the insurance companies; now, therefore be it

Resolved, By the Council of the California Medical Association:

1. That the Council make strong protest to the Industrial Accident Commission against reduction of fees;
2. That the members of the medical profession be advised of their responsibility in the matter;
3. That the fee schedule be reviewed and adequate arguments for adherence thereto be emphasized;
4. The Industrial Accident Commission be requested to adhere to the fee schedule itself in all its departments and to require recognition of the schedule of insurance companies; and be it further

Resolved, That investigation of any methods for correction of these abuses be at once undertaken by the Committee on Industrial Accident Practice, with the least possible delay.

The committee recommends adoption.

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Your committee also approves the recommendation of the Committee on Industrial Accident Practice as follows:

1. Reapproval of the Industrial Accident fee schedule approved by the California State Medical Society April, 1920, and in use since.
2. Approval of the 50 per cent additional fee per visit, for specialists who limit their work to one branch of medicine or surgery when referred directly by insurance carrier or physician for treatment.
3. That the Council prepare for county units a plan of procedure for dealing with unprofessional conduct in Workmen's Compensation work.
4. That the Council endeavor to secure enactment by the State Legislature of an amendment to the Workmen's Compensation Law similar to Section 102 of the proposed Health Insurance Bill.
5. That the standing Committee of Industrial Accident Practice be authorized to negotiate with the Industrial Accident Commission and in conjunction with such other members of the Association as they may deem it advisable to carry out the provisions of this report.

The committee recommends adoption.

X-ray Fee Schedule

A subcommittee of the Industrial Practice Committee submits a report to the Council which in turn have been submitted to the House of Delegates with recommendation for adoption.

The committee recommends for adoption:

1. The following statement: "The basis for a difference in an x-ray fee charged by an industrial surgeon and that charged by a radiologist for the same examination is that in the latter instance a medical consultation is had."
2. The x-ray fee schedule for radiologists for Industrial Accident work is here presented.
3. That a one-third reduction from that fee schedule here presented be the fee for physicians and surgeons doing their own x-ray work in Industrial Accident surgery, who do not specialize in radiology.

Your committee recommends that these recommendations be adopted with the exception that the fee schedule as presented be not adopted by the House of Delegates. It recommends that this fee schedule be transmitted to the Council of the California Medical Association as a tentative minimum schedule to be used as a basis for adjustment in their negotiations with the Industrial Accident Commission.

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SCHEDULE I

Recommended for Industrial Accident Commission: X-ray Fee Schedule for Radiologists

(The following fees are designed to cover adequate routine x-ray examination of the part or region named.)

Extremities:	
Toes or fingers	$ 5.00
Wrist, hand, ankle	7.00
Foot, heel, knee, elbow, part of limb	7.00
Hip, shoulder, scapula, clavicle	10.00
Ribs	10.00
Spine: Cervical, thoracic, lumbar or sacral regions	11.50
Pelvis	10.00

Skull: Complete examination	20.00
For sella turcica	10.00
Sinuses	10.00
Mastoids (both sides)	12.50
Bones of face	10.00
Nose	7.50
Jaw	10.00
Denture complete (with jaw films)	10.00
Single tooth	2.00
Eye: For foreign body (discovery)	10.00
For foreign body (discovery and localization)	20.00
Chest: Heart (two-meter film)	7.50
Chest (stereoscopic films)	10.00
Complete (including fluoroscopy)	15.00
Fluoroscopic	5.00
Sternum	10.00
Gastro-Intestinal Tract: Gastro-intestinal series	25.00
Ditto plus enema or cholecystography	30.00
Ditto plus enema and cholecystography	35.00
Barium enema	12.50
Cholecystography	12.50
Genito-Urinary Tract: Plain films	10.00
Retrograde pyelograms	15.00
Excretion urogram (intravenous, including drug and administration)	20.00
Bladder (or cystogram)	10.00
Extra examinations or investigations	According to work involved
Extra films (each)	1.50

Check-up examinations....Two-thirds of the original charge

SCHEDULE II

Recommended for Industrial Accident Commission: X-ray Fee Schedule for Industrial Surgeons or General Practitioners Making Their Own X-ray Examinations

	1 View	2 Views
Toes, fingers (single digits)	$2.50	$2.75
Foot, hand Angle, wrist	2.50	3.50
Knee, elbow Leg, arm	3.50	5.00
Skull, shoulder Ribs, pelvis Chest, hip joints Spine, sinuses	5.00	6.50

Stereoscopic examinations are to be charged for at the rate of $1.50 added to the fee for one film.

Respectfully delivered to the secretary of the San Francisco County Medical Society, the Board of Directors having no scheduled meeting before the coming meeting of the California Medical Association at which latter meeting this report is designed to be of service.

May 9, 1935.

JOSEPH LEVITIN,
R. S. STONE,
R. R. NEWELL *(Chairman)*.

Maternal Welfare

The American Committee on Maternal Welfare, represented by American Association of Obstetricians, Gynecologists and Abdominal Surgeons, American Child Health Association, American College of Surgeons, American Gynecological Society, Section of Obstetrics and Gynecology of the American Medical Association, American Public Health Association, General Association of Obstetricians and Gynecologists, Chicago Maternity Center, Children's Bureau—Department of Labor, Maternity Center Association of New York, Pacific Coast Society of Obstetrics and Gynecology, Southern Medical Association, has urged the adoption of plans for the furtherance of maternal welfare. The Council has recommended that the formation of a committee by the California Medical Association to further the development of a Maternal Welfare program as a very desirable one and submits the following resolution:

RESOLUTION NO. 7—MATERNAL WELFARE

WHEREAS, The American Committee on Maternal Welfare, composed of representatives from the various professional and social organizations in the United States interested in increasing maternal care and the reduction of maternal and infant mortality, has embarked upon an extensive program in the United States; and

WHEREAS, There can be no question that the work contemplated by this committee is desirable, and, if effectively carried out, will result in great benefit to both the public and the profession; and

WHEREAS, In the opinion of this House of Delegates, the work can best be done in California by the coöperation of the California Medical Association with the American Committee on Maternal Welfare; therefore, be it

Resolved, That a Committee of Five members of the California Medical Association from the Section on Obstetrics and Gynecology be appointed by the Speaker, this committee to serve until the next annual session of the California Medical Association, to elect its own chairman and secretary, and to coöperate with the American Committee on Maternal Welfare in the development of a program for the advancement of maternal welfare in California; and be it further

Resolved, That such reasonable expenses be allowed this committee as shall be authorized by the Council.

The committee recommends adoption.

Charters

Your committee moves the adoption of the recommendation of the Council that charters be issued to: The Sacramento Society for Medical Improvement, the Lassen-Plumas-Modoc County Medical Society, the Mendocino-Lake County Medical Society.

The committee recommends adoption.

Report of the Speaker of the House of Delegates

The Speaker of the House of Delegates needs no report to this House. He has ruled wisely, fairly, impartially, and efficiently. This has been an unusual year, calling for the appointment of many special committees. The House of Delegates appreciates his activities.

The committee recommends adoption.

Report of the Secretary-Treasurer

In the report of the secretary-treasurer we note as follows:

1. In spite of an economic depression there has been a gain of 129 active members. The secretary-treasurer commends the county officers for their endeavors to secure the affiliation of eligible members. However, our average membership is 49 per cent at this time in comparison with the national average of 60 per cent. Your committee urges with the secretary the sustained activity and endeavor of the Committee on Membership and Organization and the various county units in order to secure at least 60 per cent affiliation by the end of 1935.

2. Finances. There is appended to the secretary-treasurer's report a certified audit report by Ernst & Ernst, auditors and accountants. This audit report calls attention to the fact that our reserve has been markedly depleted during the past year by unusual expenditures. This audit report is followed by recommendations from the Auditing Committee which has the Council's approval and your committee recommends that the House of Delegates approve these recommendations, which are as follows:

(1) That the bank salary account be closed. That salaries for the office staff be paid from the Revolving Fund;

(2) That a Petty Cash Fund of $50 be continued;

(3) That the Revolving Fund be reduced to $750. That it be reconciled in the Cash-Journal Ledger each month. That expenditures through the Revolving Fund be limited to salaries and immediate disbursement requirements. That all disbursements, in so far as possible, be by means of the regular Association voucher;

(4) That all purchases be made through a purchase order form signed by the secretary under authority given by the Council;

(5) That a monthly trial balance be filed in the Cash Journal. Said trial balance to show unexpended appropriation balances;

(6) That the value of office furniture be written off and carried in reserve statements at $1. That an inventory be made and filed annually in the Council minutes;

(7) That all control accounts be entered in the general ledger.

3. Association Activities. The secretary-treasurer reports on the activities of the Association during the year, all of which are incorporated either in separate reports or in the report of the Council. These activi-

ties are the activities of the Committee of Five, the Association's activities against Initiatives No. 9 and No. 17, exhibits at State fairs, postgraduate activities, Public Health Education, Speakers' Bureau, and Ivey Exhibit, and the Association's activity in regard to a uniform State plan for medical care of those on relief in conjunction with the SERA.

Many difficulties were encountered by the Association's Advisory Committee in the SERA, and apparently nothing could be accomplished until in November, 1933, promptly upon receiving Bulletin No. 7 and the request that county and State Association formulate plans and a program for coördinating the medical care with other FERA relief activities such plan was made available to the State FERA administrator and the Citizens' Commission. In November, 1933, State Administrator Branion directed a communication to each FERA county administrator stating the provisions of the plan which had been approved by the Citizens' Commission and directing that it be put into operation. Since that time there has been delay after delay, largely due to the fact that there has not been a single individual in the medical profession with the time, tact, persistence, and connections who would overcome the objections and inertia coincident to operating the agreement on the part of welfare efficiency bureaus, county citizens' commissions, county FERA and SERA directors, together with similar officers in State administration. Further delay was due also to constant changing in personnel in State and county administrations and the maze of contradictory rulings that have emanated from the Federal and State office regarding all these activities. The committee of the Association offered the State SERA administrator and his staff a complete medical service to all those receiving benefits under SERA and their families on a capitation system whereby we would assume complete responsibility and control. This plan met with their acceptance, but it was finally determined that there were certain legal technical objections which prevented its being put into usage. At the present time Frank McLaughlin, State administrator, has appointed a commission of four, composed of two physicians and two laymen, to act in an advisory capacity for the purpose of making available a coördinate, uniform State-wide program.

At this time the commission has had an organization meeting only, and has not been further consulted regarding the many details coincident to putting the plan into operation.

In all probability, unless further unforeseen changes occur, definite action may be expected within the very near future.

Your committee wishes to call to the attention of the House of Delegates that a great deal of time has been spent by the Association's Advisory Committee, and its officers in attempting to secure the uniform State plan for medical care of those on relief, and the thanks of the Association should be given for their untiring efforts in the attempt to solve this very difficult, tangled and complex problem.

The secretary-treasurer should be commended in his field activities in the initiation of the various county units during the past year, especially since a great deal of his time has been taken up with medical economic matters.

The committee recommends adoption.

Report of the Editor

Your committee wishes to call attention to the report of the Editor. California and Western Medicine is a compliment to the editor and is an excellent medical journal. In spite of a general economic distress, the editor nevertheless has been able to maintain an excellent magazine and we recommend that the publication policies be continued as heretofore.

The committee recommends adoption.

Report of the General Counsel

The report as read details somewhat at length the work that has been done by the legal department during the past year. It fully justifies the words of commendation that have been given the department in our comments upon this subject in the report of the Council.

The committee recommends adoption.

Report of the District Councilors

The report of the various district councilors and councilors at large, states that all the councilors have fulfilled their duties by visiting the respective county organizations for which they have been responsible. They report harmony, coöperation of groups with the State society, and an attempt by each county unit to increase their affiliated membership. The councilors report that all the counties are meeting the challenge of the public in instituting means to meet the local needs of medical care and care of the indigents by contact with SERA and contiguous groups. The councilor from the seventh district reports that the Alameda County plan has now been in operation for two and one-half years, and finds it is working satisfactorily in every respect. The councilor from the second district reports the completion and occupancy of the library and headquarters building of the Los Angeles County Medical Association. This has already resulted in a deeper understanding and more steady interest in the problems of medicine and the development of a valuable esprit de corps.

This Association should be congratulated upon being able to acquire and maintain a headquarters that not only reacts beneficially in Los Angeles, but is an inspiration to the medical profession of all southern California.

The committee recommends adoption.

Report of the Standing Committees

Your committee again calls attention to the fact that special committees for surveys, investigations, etc., as carried in resolutions adopted by the House of Delegates, has usurped much of the work from standing committees of the California Medical Association. This is particularly true of the Committee on Associated Societies and Technical Works, the Committee on Health and Public Instruction, the Committee on Hospitals, Dispensaries and Clinics, the Committee on Medical Economics, and the Committee on Public Relations.

Your committee strongly urges that, in the future, resolutions presented by the House of Delegates should make use of standing committees provided for by the Constitution and By-Laws of the California Medical Association whenever possible, rather than calling for the appointment of special committees. This will avoid duplication and expense.

The committee recommends adoption.

Committee on Extension Lectures

The recommendations of the Committee on Extension Lectures has been taken care of by an amendment proposed by the Council and appears in the report of the Council.

The committee recommends adoption.

Committee on Health and Public Instruction

The recommendations of this committee have been incorporated in the report of the Council.

The committee recommends adoption.

The Committee on History and Obituaries

This committee reports, In Memoriam, seventy-six members of our Association. We suggest that the House of Delegates rise and pause for a moment out of respect to their memory.

The committee recommends adoption.

Committee on Hospitals, Dispensaries and Clinics

Your committee realizes that the work of this committee is most important and it is suggested that this committee follow closely the amendment as introduced into the State Legislature increasing the licensing fee of clinics so that when said bill is amended the State Board of Health may have adequate funds to administer a license efficiently.

The committee recommends adoption.

Committee on Industrial Practice

The report is included in the report of the Council.

The committee recommends adoption.

Committee on Medical Education and Medical Institutions

This committee reports progress and is covered in the report of extension lectures and appears in the Council report.

The committee recommends adoption.

Committee on Medical Defense

The Committee on Medical Defense reports factual data in regard to the Medical Society of the State of California and the old medical defense fund. It is recommended that the Medical Defense Committee make an intensive study of medical defense and report to the Council their findings in order that the committee and Council make recommendations to the House of Delegates in 1936.

The committee recommends adoption.

Committee on Medical Economics

The report of this committee is merged intimately with the activities of the Public Relations and special committees of the California Medical Association.

The committee recommends adoption.

Committee on Membership and Organization

The report of this committee is incorporated in the recommendations of the secretary and treasurer.

The committee recommends adoption.

Committee on Public Policy and Legislation

The report of this committee will be given verbally by the chairman of that committee in order that the report may be brought up to date.

Your committee wishes at this time to particularly commend this committee for its zeal, sacrifice and untiring efforts which it has instituted in protecting the interests not only of the California Medical Association, but each and every doctor in the State of California.

The committee recommends adoption.

Committee on Public Relations

The Committee on Public Relations has outlined a program of activities. This program is printed in the Pre-Convention Bulletin, page 80. Your committee endorses and approves this program.

The committee recommends adoption.

Committee on Publications

The committee recommends that the procedure of having no advertising on the outside front cover be continued. And the present high standards laid down for advertising copy be continued.

The committee recommends adoption.

Committee on Scientific Work

Your committee commends the Committee on Scientific Work on maintaining the high type of scientific program at this, the sixty-fourth annual meeting of the California Medical Association.

Respectfully submitted,

THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND OF STANDING COMMITTEES.

By JOHN C. RUDDOCK, *Chairman*
W. W. ROBLEE
C. KELLY CANELO

REPORT OF REFERENCE COMMITTEE ON RESOLUTIONS, AND ON NEW AND MISCELLANEOUS BUSINESS*

To the Speaker and Members of the House of Delegates:

Your Reference Committee No. 1 had referred to it thirteen resolutions. After adequate study and discussion, the committee submits the following report:

RESOLUTION NO. 1

Introduced by Dr. T. Henshaw Kelly at the request of Dr. Frank K. Lynch of San Francisco, is as follows:

"WHEREAS, Certain State and Federal legislation governing the control of reproduction is conflicting and renders certain phases of medical practice illegal; and

"WHEREAS, Religious organizations have now begun to consider favorably certain means of population control; and

"WHEREAS, In our present, and probably future, situation such control has economic as well as present medical aspects; and

"WHEREAS, Some type of uniformity in legislation is advisable in the matter; therefore, be it

"*Resolved,* That the House of Delegates of the California Medical Association recommends to the House of Delegates of the American Medical Association that it sanction the appointment, by the Board of Trustees of the American Medical Association, of a committee to study carefully all these related problems and present at least a preliminary report to the 1936 session of the House of Delegates of the American Medical Association."

In considering this matter, the committee felt the original resolution was worded somewhat vaguely, and for this reason presents a substitute resolution, which does not change the original purpose, with the recommendation that it be adopted:

"WHEREAS, Certain legislation governing the dissemination of information concerning birth control is conflicting; and

"WHEREAS, Uniformity in legislation in this matter is advisable; therefore, be it

'*Resolved,* That the House of Delegates of the California Medical Association instruct its delegates to the American Medical Association to request the appointment of a committee from the House of Delegates of the American Medical Association to study the entire problem of birth control and report to the House of Delegates of the American Medical Association at its 1936 session."

* * *

RESOLUTION NO. 2

Introduced by Dr. Irving S. Ingber, of San Francisco, is as follows:

"WHEREAS, The California Medical-Economic Survey would indicate that 'almost one-third of the doctors of medicine earned less than $2,000 in 1933; that one-half earned less than $3,000, and three-fourths less than $5,000'; and

"WHEREAS, The By-Laws of the California Medical Association do not provide for resignation unless dues for the entire year are paid in full; and

"WHEREAS, The dues of some of the component county societies are received in installments; and

"WHEREAS, Many of the members of the general medical profession are feeling the effects of years of economic depression; therefore, be it

"*Resolved,* That during this period of financial stress it be optional with the member to pay his California Medical Association dues either annually or semi-annually."

Your committee is of the opinion that this resolution is unconstitutional, inasmuch as each member of the California Medical Association must have his State Association dues paid by April 1 of each year. The committee recommends that this resolution be not adopted.

* * *

RESOLUTION NO. 3

Introduced by Dr. S. J. McClendon, of San Diego, is as follows:

"WHEREAS, The enactment by California of a qualifying certificate (Basic Science) law would promote the public health interest of our State; now, therefore, be it

"*Resolved,* By the House of Delegates, in annual session assembled at Yosemite National Park, that this House instruct the Council of the California Medical Association to continue its studies of such a proposed law so that the same can be prepared for submission by Initiative at the State election in the fall of 1936; and that herewith is submitted a form of prepared bill which conforms to the Act approved by the Bureau of Legal Medicine and Legislation of the American Medical Association."

Your committee feels that this resolution, which deals with qualifying certificate or basic science law, overlaps the resolution presented by the committee which is being considered by Reference Committee No. 2. With the consent of its author, this resolution has been withdrawn.

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* See also page 74.

* * *

Resolution No. 4

Introduced by Dr. L. A. Packard, of Kern County, is as follows:

"Whereas, The practice of medicine in several counties in the State of California is in precarious condition; and

"Whereas, This same condition may appear in other counties without warning; and

"Whereas, Both tax-paid medicine and tax-paid hospitalization may be forced on certain component societies of this State; and

"Whereas, There is no source of information from which component societies may obtain information to guide their actions in the event that this eventuality is forced upon them; and

"Whereas, For political and economic reasons it may be necessary for members of certain component societies to accept such a type of medical practice in part or in whole; therefore, be it

"Resolved, That the California Medical Association, through a committee of five members of the House of Delegates, appointed by the Speaker thereof, do make a thorough investigation of this type of practice; and, be it further

"Resolved, That this investigation include the peculiar and particular conditions existing in each county so threatened; and, be it further

"Resolved, That this committee be prepared and lend aid to each component society when and if needed, and that the California Medical Association shall allow this committee an expense fund not to exceed $500 for the purposes of the study, and that in addition each member of the committee be allowed his personal traveling and necessary expenses; and, be it further

"Resolved, That no final recommendation by this committee will be given to any component society without the knowledge and consent of the Council of the California Medical Association."

In considering this resolution in relation to tax-supported medicine and tax-supported hospitalization in the various counties, the committee and several representatives of the society felt that a substitute resolution, which does not change the purpose of the original resolution, should be introduced, and Doctor Packard willingly withdrew his original resolution. The committee recommends the adoption of the following substitute resolution:

"Whereas, The practice of medicine in several counties in California is in a precarious condition, where tax-supported medicine and tax-supported hospitalization is being or may be forced upon the county societies; and

"Whereas, There is no source from which these societies may obtain information and guidance for their actions in this situation; therefore, be it

"Resolved, That a committee of three, consisting of one member of the Council and two from the House of Delegates, be appointed by the Speaker of the House and, acting under the direction of the Council, study and investigate all conditions pertaining to tax-supported medicine and tax-supported hospitalization in component counties involved, and recommend methods of conduct and procedure to members of the California Medical Association practicing in such counties; and be it further

"Resolved, That the Council be authorized to allow this committee a fund for necessary expenses not to exceed $500."

* * *

Resolution No. 5

Introduced by Dr. L. A. Packard, of Kern County, is as follows:

"Whereas, The infringement and violation of the rules of ethics or professional conduct in a county other than that in which he has his county society membership may create situations inimical to the best interests of public health and of the medical profession; now, therefore, be it

"Resolved, That this House of Delegates instruct the component county medical societies that the rules of ethics and professional conduct of each component county society shall apply to and govern all members of the Association in reference to any professional acts or conduct of such members within the territorial limits of such component county society."

Resolution No. 6

Introduced by Dr. C. Kelly Canelo, of Santa Clara County, is as follows:

"Whereas, The present and near future hold unusual challenges to the ability of organized medicine to meet the responsibilities rightly placed upon it; and

"Whereas, One of the chief criterions of such ability is the skill and insight in meeting the needs of patients as individuals and of the community as a whole by medical men as a unified though diverse body; and

"Whereas, The past has transmitted to us in archives of medical literature, and especially in the formal statements of professional conduct, the results of experience in dealing with such needs; and

"Whereas, Changing organization and needs of the community at large throw unusual strains upon the adaptation of past principles to present practice; therefore, be it

"Resolved, That the Santa Clara County Medical Society respectfully propose to the officers, Council, and House of Delegates of the California Medical Association that a committee be appointed to bring in a report for adoption as soon as possible by the California Medical Association, said report to consist of the following:

"1. A setting forth of principles of professional conduct to govern the members of the Association at large, to reinforce and to supplement the code of ethics of the American Medical Association;

"2. A proposal for the formation of a standing committee of the State Association, the function of which shall be to arbitrate differences between physicians, between physician and patients, or other matters that may arise properly falling within the scope of such a committee;

"3. The initiation of procedure to amend the Constitution and By-Laws of the State Association if necessary for the carrying out of the above proposals;

"4. That our delegates to the California Medical Association be instructed to offer and support actively the above proposal at the next House of Delegates meeting."

In considering these two resolutions, which deal with professional conduct, the committee, with the consent of the sponsors or authors of these two resolutions, have formulated a substitute resolution which they recommend be adopted. The resolution is as follows:

"Whereas, The generally accepted principles of medical ethics are not defined with sufficient clarity to form a practical guide for conduct; and

"Whereas, It is desirable for rules of professional conduct to be as specific as possible and uniform throughout the States; therefore, be it

"Resolved, That the Council of the California Medical Association prepare rules of professional conduct and the procedure for this enforcement; and be it further

"Resolved, That the Council shall take such steps and proceedings as may be necessary to put such rules of professional conduct and procedure into effect in each component county society and the California Medical Association as soon as possible."

* * *

Resolution No. 7

Introduced by Dr. Hans Hartman, of Stanislaus County, is as follows:

"Whereas, The recent reduction of the x-ray fee schedule of the State Compensation Insurance Fund does not meet with the approval of the majority of the general practitioners of the State; and

"Whereas, The present schedule was adopted by the State Compensation Insurance Fund and other industrial accident companies due to the fact that the California State Medical Association was unable to agree on a fee schedule; and

"Whereas, The fee schedule appended does meet with the approval of the general practitioners contacted; now, therefore, be it

"Resolved, That this House of Delegates here assembled approve of the fee schedule herewith appended; and be it further

"Resolved, That an additional fee be allowed for a radiologist for his opinion when requested; and be it further

"Resolved, That the California Medical Association contact the State Compensation Insurance Fund and attempt to work out a satisfactory solution to this question."

Your committee disapproves this resolution, inasmuch as the matter of fee charges is covered in the report of Reference Committee No. 2.

* * *

Resolution No. 8

Introduced by Dr. Lowell S. Goin, of Los Angeles, is as follows:

"Whereas, It has come to the attention of the House of Delegates of the California Medical Association that the relation between certain members of this Association and hospitals is neither equitable nor fair; and

"Whereas, The committee appointed by this House to investigate this condition has reported that there is, in fact, justification for said conclusion; and

"Whereas, This House recognizes radiology and clinical pathology as branches of medical practice, and therefore not proper activities of hospitals; now, therefore, be it

"Resolved, By the House of Delegates of the California Medical Association that a hospital conducting a department of clinical pathology and/or radiology should do so only to the interest of the patient and not for the purpose of profit, and that every hospital should bear in mind that in arranging for diagnostic and/or therapeutic services by

these departments it does so as a matter of convenience and not as an essential right; and be it further

"Resolved, That the Council of the California Medical Association be and hereby is authorized and empowered to take such steps as it sees fit to establish correct relationships between hospitals and physicians; and be it further

"Resolved, That the House of Delegates of the California Medical Association is unalterably opposed to any attempt to divide any branch of medical practice, such as radiology or pathology, into technical and professional portions, and that it declares such division or attempt at division to be against the interests of the public and the profession; and be it further

"Resolved, That these resolutions and the report of this Special Committee on the Practice of Radiology and Clinical Pathology in Hospitals be spread upon the minutes of this Association, and that the secretary of the California Medical Association be and hereby is directed to send a copy thereof to each of the several hospitals in this State."

In considering this resolution concerning the practice of radiology and pathology in hospitals, Doctor Goin kindly withdrew the original resolution and consents to the presentation of a substitute resolution for adoption:

"WHEREAS, The California Medical Association is of the firm and unalterable opinion that the practice of medicine at all times should be confined to duly licensed physicians, and that it recognizes the practice of radiology and clinical pathology as the practice of medicine; and

"WHEREAS, The California Medical Association is of the opinion that a hospital conducting a department of radiology and/or clinical pathology should do so only to the interest of the patient and not for the purpose of profit, and that every hospital should bear in mind that in arranging for diagnostic and/or therapeutic services by such departments it does so as a matter of convenience and not as an essential right; therefore, be it

"Resolved, That the Council of the California Medical Association be and hereby is authorized to take such steps as it sees fit to establish mutually equitable relations between hospitals, radiologists and clinical pathologists to the end that the practice of medicine shall be conducted by physicians and not by hospitals; provided, however, that the California Medical Association is unalterably opposed to the division of any branch of medical practice, such as radiology or pathology, into technical and professional portions; and be it further

"Resolved, That the secretary of the California Medical Association be and hereby is directed to send a copy of this resolution to each of the several hospitals in the State."

* * *

RESOLUTION NO. 9

Introduced by Dr. T. Henshaw Kelly, of San Francisco, is as follows:

"At Riverside at the 1934 annual session of the House of Delegates of the California Medical Association there was created a Committee of Five, which was instructed to study health insurance in California, to formulate a plan for health insurance in California and to prepare a bill that might be available for presentation to the 1935 legislature. This resolution also instructed the Council of the California Medical Association to appropriate the funds necessary to provide the necessary services for the studies and work of this committee.

"The Committee of Five has conducted and is conducting a comprehensive survey of the economic aspects of sickness in California. In coöperation with the State Board of Health, some $56,000 was obtained from the SERA for field work and certain types of office work. The Council, at the request of the Committee of Five, has appropriated $32,750 for the necessary supervisorial, investigative and statistical work required for the successful conduct of the survey.

"At Los Angeles, on March 3, 1935, the House of Delegates, acting upon a majority and minority report of the Committee of Five, passed the following resolution creating the Committee of Six that is making this report:

" 'WHEREAS, The studies of the Committee of Five of the California Medical Association have shown the inability of a certain percentage of our population to adequately finance the cost entailed by illness; and

" 'WHEREAS, Because of this economic situation proper medical care is beyond the reach of this population group; and

" 'WHEREAS, It has been established that this problem can be alleviated by the utilization of the insurance principle: now, therefore, be it

" 'Resolved, That the House of Delegates of the California Medical Association recommends that legislation be proposed seeking to establish a health insurance system, mandatory as to certain population groups and voluntary as to certain population groups, which shall include the following principles:

" '1. The patient shall have absolutely free choice of physician and hospital.

" '2. The medical profession shall determine the scope, extent, standards, quality, compensation paid for, and all other matters and things related to the medical and medical auxiliary services rendered under the system.

" '3. There shall be no provision for cash benefits.

" '4. The patient shall receive adequate treatment and his physician shall receive adequate compensation.

" '5. The foregoing principles shall be maintained with such modifications thereof as may from time to time be recommended or approved by the profession; and be it further

" 'Resolved, That the California Medical Association immediately offer its full aid and coöperation to the Interim Committee of the Senate of the State of California charged with the study of this problem, to the end that any measure which shall be passed establishing a health insurance system at the 1935 session of the California Legislature shall contain the above principles; and be it further

" 'Resolved, That there be formed a special committee authorized and empowered to act herein, constituted as follows: The Legislative Committee of the Association and three members of the Association to be appointed by the Speaker of the House.'

"After an extensive discussion with the various members and groups of the California Medical Association, the Speaker appointed upon this committee Doctors W. B. Coffey, Joseph Catton and T. Henshaw Kelly, in addition to the Committee on Public Policy and Legislation consisting of Junius B. Harris, Fred R. DeLappe and E. T. Remmen.

"The committee immediately met with the Senate Interim Committee, which informed this committee that it had decided that some form of complusory health insurance was necessary to solve the problem of illness in California and that it would sponsor the bill presented by the Committee of Six.

"Because of the necessity of an early report to the Senate by the Senate Interim Committee, your Committee of Six, requesting the aid of Hartley F. Peart, general counsel, and John B. Canning, professor of economics, Leland Stanford University, as economic advisor, began work on the bill. It appointed the following Advisory Committee: Clarence G. Toland of Los Angeles, Rodney Yoell of San Francisco, LeRoy Brooks of San Francisco, V. W. Hart of Yreka, Lemuel P. Adams of Oakland, W. W. Roblee of Riverside, A. J. Scott of Los Angeles, Louis A. Packard of Bakersfield, R. A. Peers of Colfax, Irving S. Ingber of San Francisco, Dewey Powell of Stockton, E. M. Pallette of Los Angeles, Loren Chandler of San Francisco, Lyell Kinney of San Diego, Henry Dietrich of Los Angeles.

"By day after day and night after night of work, often until three or four o'clock in the morning, two meetings being held with the Advisory Committee, a bill was completed and presented to the Senate Committee. A copy of this bill was sent to each member of the California Medical Association.

"The bill was included without change in the report of the Senate Interim Committee, submitted by that committee to the Senate on April 12, 1935, and introduced in the Senate after approval by the Legislative Counsel Bureau on April 15, 1935, by amendment of Senate Bill No. 454, by which number the bill is now known.

"The Public Health and Quarantine Committee of the Senate, to which the bill was referred, sent the bill out to the floor of the Senate on April 24, 1935, with a number of very objectionable amendments and a recommendation 'do pass.' These amendments were added at the urgent behest of the opponents of the bill, cultists, commercial corporate medical organizations and physicians who would not follow the organized professions' course.

"By action of members of the Senate Interim Committee certain of these amendments were removed from the bill and by action of the Committee of Six the bill was amended to reduce the income bracket from $3,000 to $2,400 and the coverage from the employee and his dependents to the employee only. Because of inability to agree upon the scope and cost of a dental program, primary dental benefits were eliminated and dental benefits were put into additional benefits to be authorized when the fund, in the opinion of the Commission, justifies the authorization.

"Assemblyman Dewey Anderson introduced the bill in the Assembly on May 10, by amending Assembly Bill No. 1097, and in that form it contains the same provisions as Senate Bill No. 454 as amended May 7, 1935, with the exception that the two physicians have been removed from the Commission.

"In Senate Bill No. 454, as amended May 7, 1935, and Assembly Bill No. 1097, as amended May 10, 1935, with the exception of the present lack of physicians on the Commission in Assembly Bill No. 1097, which we are assured will be remedied by amendment, are the principles included in the resolution of the House of Delegates of March 3, 1935.

"The committee wishes it understood that the fact that if at any time during its course through the legislature the bill may be in a form unsatisfactory to the members of the California Medical Association and the committee, it does not mean that the bill is to be supported in that form by the committee at a final vote.

"The committee will see the bill to a point where no further changes can be accomplished, and if the bill does not meet the standards set by the House of Delegates, the bill will be opposed to the limit by the Committee of Six.

"The Committee of Six, realizing from intimate contact with legislative matters the importance of continuing support of the course adopted by the House of Delegates at Los Angeles, and realizing also the necessity of safeguarding the service rendered to the sick in California and the future quality and good name of the medical profession in California, asks the approval of the House of Delegates to the foregoing."

In considering this report, the Reference Committee is mindful of the principles of health insurance as set forth in the House of Delegates resolution of March 3, 1935, and that some of these principles are impossible of fulfillment in their exact details. It was questionable in the minds of members of the Reference Committee whether the legislation under consideration at present fulfilled each and all of the principles of health insurance laid down in the above report. However, we have been informed by members of the Committee of Six that in their opinion, and in the opinion of competent legal advice, all of the principles of health insurance as laid down in the Association's resolution are included in Senate Bill No. 454, as of May 7, 1935, and in Assembly Bill No. 1097, as of May 10, 1935, as far as is legally possible.

Your Reference Committee urges the Committee of Six to insist on the re-establishment of two physicians on the Commission, and the amendment of subsection (*b*) of Section 5 of each bill to delete therefrom "x-ray, pathological and other hospital laboratory services" as "auxiliary benefits."

With these recommendations to the Committee of Six, your Reference Committee recommends the adoption of this report.

* * *

Resolution No. 10

Introduced by Dr. Daniel Crosby, of Alameda County, is as follows:

"Whereas, On March 3, 1935, the House of Delegates of the California Medical Association, convinced of the advisability of some sort of health insurance in California, adopted the following resolution:

" 'Whereas, The studies of the Committee of Five of the California Medical Association have shown the inability of a certain percentage of our population to adequately finance the cost entailed by illness; and

" 'Whereas, Because of this economic situation proper medical care is beyond the reach of this population group; and

" 'Whereas, It has been established that this problem can be alleviated by the utilization of the insurance principle; now, therefore, be it

" '*Resolved*, That the House of Delegates of the California Medical Association recommends that legislation be proposed seeking to establish a health insurance system, mandatory as to certain population groups and voluntary as to certain population groups, which shall include the following principles:

" 'No. 1. The patient shall have absolutely free choice of physician and hospital;

" 'No. 2. The medical profession shall determine the scope, extent, standards, quality, compensation paid for, and all other matters and things related to the medical auxiliary services rendered under the system;

" 'No. 3. There shall be no provision for cash benefits;

" 'No. 4. The patient shall receive adequate treatment and his physician shall receive adequate compensation;

" 'No. 5. The foregoing principles shall be maintained with such modifications thereof as may from time to time be recommended, or approved by the profession; and be it further

" '*Resolved*, That the California Medical Association immediately offer its full aid and coöperation to the Interim Committee of the Senate of the State of California charged with the study of this problem to the end that any measure which shall be passed establishing a health insurance system at the 1935 session of the California Legislature shall contain the above principles; and be it further

" '*Resolved*, That there be formed a special committee authorized and empowered to act herein, constituted as follows: The Legislative Committee of the Association and three members of the Association to be appointed by the Speaker of the House.'

"Whereas, The California Medical Association did in fact immediately offer and give its full aid to the Interim Committee; and

"Whereas, With the combined effort of the California Medical Association and the Interim Committee, Senate Bill No. 454 was introduced, in conformity with these resolutions; and

"Whereas, Senate Bill No. 454 has been amended out of all semblance to the original plan of the combined committee; therefore, be it

"*Resolved*, That the House of Delegates hereby reaffirm its adherence to the principles enunciated in the originally adopted resolution, but declares its disapproval of the bill in its present amended form in so far as it falls to conform with the principles of the original resolution."

Your committee recommends this resolution for adoption.

Resolution No. 11

Introduced by Dr. R. Stanley Kneeshaw, of Santa Clara County, is as follows:

"Whereas, Pursuant to the resolution of the House of Delegates of the California Medical Association, adopted and passed at its special meeting at Los Angeles on March 3, 1935, a Committee of Six was created and charged with the duty of coöperating with the Interim Committee of the Senate of the State of California which was considering health insurance, to the end that the system of insurance be established, mandatory as to certain groups and voluntary as to certain groups; and

"Whereas, In the performance of this duty the committee was advised to adhere to and maintain certain principles in any bill seeking to establish such a system which this House of Delegates deemed essential to the public welfare; be it therefore

"*Resolved*, That this House of Delegates commends and thanks the Committee of Six for their services to organized medicine and expresses full confidence in their actions and decisions as contained in their report; and be it further

"*Resolved*, That in pursuance to the references made in the report of the Committee of Six concerning Senate Bill No. 454, as of May 7 date, and Assembly Bill No. 1097, as of May 10 date, this House of Delegates directs its Committee of Six to continue its full coöperation with the legislature of the State of California to the end that the good in the principles of health insurance, as laid down in the House of Delegates resolution of March 3, 1935, be conferred upon the people of this State."

Your committee recommends the adoption of this resolution.

* * *

Resolution No. 12

Introduced by Dr. Rodney Yoell, of San Francisco, is as follows:

"*Resolved*, That this House of Delegates send immediately on adjournment to Senators E. I. Tickle and Leonard M. Difani, and Coördinating Secretary Celestine Sullivan of the Senate Interim Committee on the Costs of Health, its sincere thanks for their efforts in seeking to enact into law the bill as presented to that committee by the Committee of Six of the California Medical Association; and be it further

"*Resolved*, That this House of Delegates send immediately to the Speaker of the Assembly and the President of the Senate of the State of California notice of its full endorsement respectively of Assembly Bill No. 1097, of May 10, 1935, with the addition of two physicians on the Commission, and an amendment to subsection (*b*) of Section 5, Page 2, Lines 24 to 29 inclusive, to read as follows: 'Subsection (*b*). "Auxiliary Benefits" which consist of maintenance and care in hospital, nursing, nursing care, drugs, medicines, physiotherapy, occupational therapy, transportation, material appliances and their upkeep'; and Senate Bill No. 454 of May 7, 1935, with subsection (*b*) of Section 5 amended to read as follows: 'Subsection (*b*). "Auxiliary Benfits" which consist of maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, occupational therapy, transportation, material appliances and their upkeep,' with the recommendation that in the interests of the public good one of these bills be enacted into law; and, further, that these expressions of opinion are from the ultimate governing body of the organized medical profession of the State of California."

Inasmuch as this resolution was introduced after the first session of the House of Delegates by special permission, the Reference Committee presents the resolution to the House of Delegates without recommendation.

* * *

Resolution No. 13

Introduced by Dr. Rodney Yoell, of San Francisco, is as follows:

"That the House of Delegates notify Senator Dan Williams that his amendments to Senate Bill No. 454 are unacceptable to the organized medical profession of the State, inasmuch as they impair the essential features of the bill deemed necessary to permit its functioning in the interests of public welfare."

Your Reference Committee submits this resolution without recommendation.

Respectfully submitted,

The Reference Committee on Resolutions and on New and Miscellaneous Business.

By L. R. Chandler, *Chairman*
Frederick N. Scatena
Lowell S. Goin

STATE AND COUNTY SOCIETY ACTIVITIES

MINUTES OF ANNUAL SESSION

This issue contains the official transactions of the sixty-fourth annual session. It is greatly desired that every member take the time to read and familiarize himself with these reports and actions. County delegates and secretaries will be rendering a service if they will direct attention to these minutes.

In the forepart of this issue and every succeeding issue, members will find a list of Association officers and committees. Turn to that section and gain an insight as to those fellow members who are serving you and your Association. Aid them in their activities, for in doing so you will increase the benefits of your membership. Officers and committees welcome your suggestions and aid. Please accord it.

* * *

BASIC SCIENCE LAWS

Eight states and the District of Columbia are today examining under "basic science" acts all those who hope to secure the right to practice the healing art. Similar legislation has been recently enacted in Iowa, and is being considered in California and many other states.

Two of the states now testing the fundamental knowledge of potential healers, Wisconsin and Connecticut, have had basic science boards in operation since 1925. Minnesota, Nebraska, and Washington started in 1927, Arkansas and the District of Columbia in 1929, and Arizona and Oregon in 1933.

Every state included in its examinations anatomy, pathology, and physiology. Most required, in addition, chemistry, bacteriology, and hygiene, while two states included hygiene and diagnosis in the list.

The American Medical Association comments:

> "The basic science board seems desirable in states having a multiplicity of examining and licensing boards.
>
> "The object of these boards has been to provide a means of insuring that all candidates seeking authority to care for sick and injured people shall first possess a reasonable knowledge of the sciences fundamental to the healing art. . . ."

* * *

IMMUNIZE NOW

STAMP OUT DIPHTHERIA

Child Health Day has become an established institution throughout the United States. It was inaugurated in 1924 by the American Child Health Association for for the purpose of calling the attention of parents, communities, and the public in general to the need for measures to protect the health of children.

In 1928 the United States Congress passed a joint resolution designating May 1 as Child Health Day, and authorizing the President to issue a proclamation requesting national observance of the day. In 1929 the Conference of State and Provincial Health Authorities of North America appointed a May Day Committee. In 1932 this committee took over from the American Child Health Association, with the continuing assistance of that association, the responsibility for the annual observance of Child Health Day. In the states the work is under the direction of State Departments of Health.

Child Health Day celebrations are intended only to mark and emphasize either the inauguration or the culmination of year-round work for improvement of the health of children. The project for 1935 is diphtheria immunization. This was chosen because there has been but little reduction since 1930 in the number of deaths from diphtheria throughout the country. While particular emphasis will be laid on immunization this year, it is not intended that the project be limited to 1935. On the contrary, one of the chief objectives is to have the work continued year after year by the medical profession.

Immunize Now—Stamp Out Diphtheria, is the slogan. The measures proposed are:

To immunize all children between the ages of six months and six years.

To make early immunization a routine practice by all physicians.

The majority of pediatricians do immunize the babies under their care during the first year of life. Physicians in general practice also should follow this procedure.

State Departments of Health and the unofficial organizations interested in children are calling the attention of parents and communities to the need for early diphtheria immunization. Each individual physician should be prepared to take care of the applications for immunization. Coöperative plans for this work should be made by the local medical societies and departments of health in all communities. When a local medical society has perfected plans for this phase of preventive medicine, there is no reason why it would not be possible to assume gradually other types until eventually preventive medicine forms an important part of the practice of all physicians.

This project offers opportunity for many medical societies and many physicians to assume their rightful leadership in the preventive medical work of their communities.

Descriptions of the plans of certain medical societies for community child health work will be found in—

The Experiments of the Medical Society of New Jersey in Furnishing Community Health Service. Section on The Public Health Hour, page 162. LeRoy A. Wilkes, M. D., executive secretary, Medical Society of New Jersey. American Medical Association Bulletin, December, 1934.

The Children's Hour. *Nassau Medical News*, December, 1934. Reprinted in *Westchester's Health*, February 11, 1935. Published by the Westchester County Department of Health, White Plains, New York.

What the Detroit Plan Offers. Henry F. Vaughan, Dr. P. H., health commissioner, Detroit. Reprinted from the December, 1933, issue of *Medical Economics*.

* * *

HISTORICAL DATES

The following dates should be of interest to our members:

1847—American Medical Association organized.
1873—Judicial Council organized.
1885—Journal of American Medical Association established.
1899—Scientific exhibits begun.
1904—Council on Medical Education and Hospitals.
1905—Council on Pharmacy and Chemistry.
1906—Bureau of Investigation.
1906—Chemical Laboratory.
1906—American Medical Association Directory.
1909—Archives of Internal Medicine.
1910—Council on Health and Public Instruction.
1910—Journal of Diseases of Children.
1911—American Medical Association Library.
1915—Council on Scientific Assembly.
1916—Cumulative Index.
1919—Archives of Psychiatry.
1920—Archives of Surgery.
1922—Bureau of Legal Medicine.
1923—Hygeia.
1924—Packet Library.
1925—Archives of Otolaryngology.
1925—Council on Physical Therapy.
1926—Archives of Pathology.
1929—Committee on Foods.
1929—Scientific Exhibit Bureau created.
1930—Bureau of Exhibits established.
1931—Bureau of Medical Economics.

All of these national activities continue to serve our members.

* * *

Plans are being perfected to inaugurate a sustained state-wide series of public health talks for the lay public during the fall and winter months. Likewise, a year's program of postgraduate conferences is being developed and will be initiated in the fall.

* * *

The Executive Committee of the Council and the Committee on Public Relations will meet July 13.

* * *

President Peers, President-Elect Pallette, and the State Secretary are arranging an itinerary that will enable them to visit every county society. County secretaries are requested to advise the State Secretary as to when such a visit will be most desirable.

* * *

The official minutes of the Yosemite annual meeting will be found in this issue. Each member is urged to read this official record in order to be familiar with their Association's activities.

COUNTY BULLETIN ADVERTISING

The pendulum never ceases swinging until the clock machinery stops, and equilibrium in man is never stable. The best that may be hoped is so to train inhibitions that they may limit the length of arc described by the emotional swing.

* * *

Representatives of a mid-west publishing company have been calling upon county society representatives seeking to secure an agreement to publish a county society bulletin. The racket is, of course, to profit by the income received from national, state, and local advertisements. The county society is offered a very small per cent of the net advertising income—the larger profit to go to the out-of-state promoter. It is reported that a trustee of the American Medical Association has lent his name to this scheme.

County societies are advised to enter into no such an agreement. County officers can manage and edit their own bulletins and retain all the profits. It is difficult to understand how an American Medical Association trustee would be a party to such a promotion scheme and endorse a venture without consulting the constituted authority of state medical organizations.

* * *

YOSEMITE REGISTRATION

Appended are the statistics of those who took the trouble to register at the annual meeting in Yosemite National Park. It is estimated that some four or five hundred members, who lodged in the Park camps, did not register.

REGISTRATION BY COUNTIES

Alameda	95	San Diego	45
Butte	1	San Francisco	142
Contra Costa	5	San Joaquin	30
Fresno	30	San Luis Obispo	4
Humboldt	1	San Mateo	20
Kings	2	Santa Barbara	15
Kern	4	Santa Clara	32
Imperial	2	Santa Cruz	6
Lassen-Plumas-Modoc	1	Shasta	1
Los Angeles	298	Siskiyou	2
Marin	5	Stanislaus	8
Mendocino	2	Tehama	0
Merced	9	Solano	3
Monterey	6	Sonoma	6
Napa	5	Tulare	6
Orange	15	Tuolumne	2
Placer	6	Ventura	3
Riverside	8	Yolo-Colusa-Glenn	4
Sacramento	23	Yuba	5
San Benito	0		
San Bernardino	11	Total	863

SECTION ENROLLMENT

Obstetrics	52	Medicine (General)	205
Pathology and Bacteriology	33	Urology	39
Pediatrics	37	Anesthesiology	10
Surgery	224	Eye, Ear, Nose, Throat	61
Industrial Medicine	29	Radiology	42
Neuropsychiatry	31	No preference	115
Dermatology	30	All sections	2

* * *

REMARKS

J. A., Alameda: Whoopie!

E. B., Sacramento: Nothing except against S. B. 454.

J. B. H., Sacramento: Prefer Bourbon to Scotch.

T. F. W., San Diego: Wish transportation furnished and request no meetings here.

W. H. B., San Diego: No more meetings at Yosemite.

E. L. G., San Francisco: Thank you!

L. H. G., San Francisco: Too many to write down.

H. W. M., San Mateo: Park is beautiful.

M. L. E., Oakland: Come on in, "The water looks wonderful."

K. C. B., Kern: Wonderful!

M. E. D., Los Angeles: A delightful place to meet.

H. H. W., Los Angeles: Wonderful place to meet.

D. C. C., Fullerton: Just a country doctor awed by my politically minded city confrères.

P. A. J., San Jose: I will gladly answer any other questions.

W. H. W., Willows: Thank you!

AMERICAN MEDICAL ASSOCIATION 1935 SESSION*

Atlantic City, New Jersey, June 13.—The principle of voluntary health insurance for the provision of medical care to all classes of people, provided each locality works out its plan in accordance with its own conditions, was officially endorsed here today by the House of Delegates of the American Medical Association, the supreme authority on medical policy of the United States.

At the same time the Association reaffirmed its traditional opposition to any form of compulsory health insurance—local, state, or federal—and declared itself equally opposed to any one all-embracing health security plan for the entire nation. Any community plan, it was held, should operate under the supervision of organized medicine with the coöperation of local agencies.

* * *

The House of Delegates made this declaration of principle, which is expected to have far-reaching results on medical practice in the United States, when it adopted the special report of the Bureau of Medical Economics of the Association, which during the last year has made a study of two hundred health plans, either proposed or in operation, worked out by an impressive group of state and county medical societies representing large areas throughout the country.

"There is no model plan which is a cure-all for the social ills any more than there is a panacea for the physical ills that affect mankind," the report said.

"In nearly every country having sickness insurance, local conditions have forced modifications of the general plan. Whether the 'plan' is one imposed by legislation, or one devised and operated on standards set voluntarily by the medical profession, a single universal or master plan cannot possibly be devised to meet all the varying conditions throughout the United States, or even different sections of individual states.

"The profession needs, and will always welcome, the coöperation and advice of all elements affected in health problems; but just as the individual physician must constantly assume the tremendous responsibility of decisions that involve life and death with individual patients, so the profession as a whole must assume the leadership and responsibility in the organization of medical service in the community.'"

ELECTION OF AMERICAN MEDICAL ASSOCIATION OFFICERS

Dr. James Tate Mason of Seattle was chosen president-elect of the American Medical Association today. He will take office at the convention in 1936, which will be held in Kansas City, Missouri.

Dr. Kenneth M. Lynch of Charleston, South Carolina was elected vice-president. Officers reëlected were: Dr Olin West of Chicago, secretary, and Dr. Herman L. Kretschmer of Chicago, treasurer.

The election developed a struggle for the important post of speaker of the House of Delegates between Dr. F. C. Warnshuis of San Francisco, who has been reëlected annually to this office since 1922, and Dr. Nathan B. Van Etten of New York City. Dr. Warnshuis failed of reëlection by a close vote—80 to 71.

The opposition to Doctor Warnshuis had developed, it was learned unofficially, as a direct result of the action of the California Medical Association, of which he is an officer, in declaring itself in favor of a plan embodying a feature of compulsory health insurance. Doctor Warnshuis has served as secretary of the California association during the last year.—*New York Times.*

SPECIAL REPORT ADOPTED

THE "SACRAMENTO BEE" ON THE AMERICAN MEDICAL ASSOCIATION AND COMPULSORY HEALTH INSURANCE

In its department, "Letters from the People," the Sacramento *Bee* of Tuesday, June 25, printed the following:

Doctor Schoff Explains Fight on Health Insurance Plan.

Editor of the Bee—Sir: On page 19 of the Sacramento *Bee* published Friday, June 14, 1935, there appears a news item under the caption, "Doctors Remove Backer of Health Insurance Plan." In smaller type under the same caption, "Sacramento Society's Criticism Results in Ouster by Medical Body."

These two statements in themselves I believe to be a misstatement of facts. The party involved is Dr.

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* See also page 103.

F. C. Warnshuis of San Francisco, who is the secretary of the California Medical Association.

I am a member of the Council of the California Medical Association and represent the counties of Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo and Yuba, and am required to attend all Council meetings held by the California Medical Association, and I know to my own knowledge that Doctor Warnshuis has never taken any active part in the health insurance plan that was authorized by the House of Delegates of the California Medical Association at their special meeting held in Los Angeles during the month of March, 1935. In fact, Doctor Warnshuis had special instructions from the Council to refrain from taking any part in the health insurance issue.

The activity of the Sacramento Society for Medical Improvement relative to the health insurance plan was not directed toward the "principle of health insurance." The principle of health insurance is approved by the majority of doctors holding a license to practice medicine and surgery in the state of California. The opposition offered by the Sacramento Society for Medical Improvement was directed specifically against Senate Bill 454. That bill contained so many clauses after the numerous amendments were made to the original bill that it entirely emasculated the original resolutions offered by the House of Delegates at its meeting in Los Angeles.

The Sacramento Society for Medical Improvement has never offered any criticism of any official, directly or indirectly, of the California Medical Association and recognizes in Doctor Warnshuis a man well qualified to represent the medical fraternity of California in his official capacity.

The action taken by the House of Delegates of the American Medical Association in removing Doctor Warnshuis as its speaker was not influenced in any manner by the Sacramento Society for Medical Improvement.

C. E. Schoff, M. D.

Sacramento, June 24, 1935.

* * *

The item to which Doctor Schoff refers was based on press Association reports from Atlantic City, where the American Medical Association held its convention. In voting out Doctor Warnshuis, the House of Delegates of the Association reiterated its stand opposing all efforts to provide health insurance by the states or the Federal Government. Opposition to the proposed compulsory health insurance legislation in California was led by the Sacramento Society for Medical Improvement and it had an echo at the national convention, according to the dispatches.—Editor of the *Bee.*

COUNCIL MINUTES*

Minutes of the Two Hundred and Thirty-Second Meeting of the Council of the California Medical Association

The following minutes were approved by the Council by mail vote.

Held in Room 234 of the Ahwahnee Hotel, Yosemite National Park, Sunday, May 12, 1935, at 8 p. m.

1. **Call to Order.**—The Council of the California Medical Association convened in regular session, Chairman T. Henshaw Kelly presiding, with the following members present:

Doctors Clarence G. Toland, president; Robert A. Peers, president-elect; Edward M. Pallette, speaker; T. Henshaw Kelly, chairman of the Council; Councilors W. W. Roblee, Henry J. Ullmann, A. L. Phillips, Karl L. Schaupp, O. D. Hamlin, Henry S. Rogers, Harry H. Wilson, C. O. Tanner, William H. Kiger, Morton R. Gibbons, Junius B. Harris; chairman of Public Relations Committee Charles A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Doctors Howson and Schoff.

2. **Report of the Council.** — Chairman Kelly submitted the report of the Council, which was acted upon section by section.

Discussion of an appropriation for publicity was had and it was moved by Councilor Wilson, seconded by Councilor Rogers, that an item of $3,000 be included in the budget for publicity purposes. Motion carried, Doctors Harris and Hamlin voting in the negative.

Chairman Kelly was directed to submit the report of the Council, with the suggested amendments included, for final approval at the Council meeting on May 13.

3. **Committee of Six.**—T. Henshaw Kelly, chairman of the Committee of Six, was authorized to prepare and submit to the Council a report on the activities of the Committee of Six. The committee was instructed to submit a budget for approval.

Moved by President-Elect Peers, seconded by Councilor Schaupp, that expense of $700 plus, incurred in accordance with action of the special meeting of the House of Delegates, be approved and paid. Carried.

4. **Report of Secretary-Treasurer.**—Moved by Councilor Ullmann, seconded by Councilor Phillips, that the report of the secretary-treasurer, as published in the Pre-Convention Bulletin, be approved. Carried.

5. **Report of the Editor.**—Moved by Speaker Pallette, seconded by President Toland, that the report of the editor, as published in the Pre-Convention Bulletin, be approved. Carried.

6. **Report of the Trustees Of The California Medical Association.** — T. Henshaw Kelly, president of the Trustees Of The California Medical Association, presented the report of the Trustees, which was approved, as read for submission to the House of Delegates.

7. **Committee of Five.**—It was the sense of the Council that the chairman of the Committee of Five should submit a complete report to the House of Delegates on the activities of the Committee of Five and its future plans.

8. **Charters.**—Moved by Speaker Pallette, seconded by President Toland, that the Council recommend to the House of Delegates the granting of a charter to the Lassen-Plumas-Modoc County Medical Society. Carried.

Moved by Speaker Pallette, seconded by Councilor Phillips, that the Council recommend to the House of Delegates the granting of a charter to the Mendocino-Lake County Medical Society. Carried.

Moved by President-Elect Peers, seconded by Councilor Harris, that the Council recommend to the House of Delegates the granting of a charter to the Sacramento Society for Medical Improvement. Carried.

9. **Order of Business—House of Delegates.**—In accordance with constitutional provision, the order of business for the first two meetings of the House of Delegates, as published in the Pre-Convention Bulletin, was approved.

10. **Standing Committees.** — Moved by Councilor Gibbons, seconded by Speaker Pallette, that the chairman appoint a Committee of Three to present to the Council for approval and submission to the House of Delegates, nominees for Standing Committees. Carried.

The chairman appointed Doctors Dukes, Rogers, and Kiger as committeemen.

11. **House of Delegates Committees.**—The speaker stated that it had become necessary to make changes in the House of Delegates committees, and the members now designated to serve were: Committee on Resolutions and New and Miscellaneous Business, Loren Chandler (chairman), F. N. Scatena, and Lowell S. Goin; Committee on Reports of Officers and Standing Committees, John C. Ruddock (chairman), Clarence K. Canelo, and W. W. Roblee.

12. **Adjournment.**—On motion duly made, seconded and carried, the Council adjourned to meet at 2 p. m. Monday, May 13.

T. Henshaw Kelly, *Chairman.*
F. C. Warnshuis, *Secretary.*

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* The minutes of the two hundred and thirty-first meeting of the Council of the California Medical Association were printed in the April, 1935, issue of California and Western Medicine, page 320.

Minutes of the Two Hundred and Thirty-Third Meeting of the Council of the California Medical Association

Held in Room 234 of the Ahwahnee Hotel, Yosemite National Park, Monday, May 13, 1935, at 2 p. m.

1. **Call to Order.**—The Council was called to order by T. Henshaw Kelly, chairman, with the following members present:

Doctors Clarence G. Toland, president; Robert A. Peers, president-elect; Edward M. Pallette, speaker; T. Henshaw Kelly, chairman of Council; Councilors W. W. Roblee, H. J. Ullmann, A. L. Phillips, Karl L. Schaupp, O. D. Hamlin, H. S. Rogers; H. H. Wilson, C. O. Tanner, W. H. Kiger, M. R. Gibbons, J. B. Harris; Chairman of Public Relations Committee C. A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Doctors C. E. Schoff and C. R. Howson.

2. **Report of Council.** — T. Henshaw Kelly, chairman, read the report of the Council, including therein the suggestions, additions, and amendments suggested by the Council.

Morton R. Gibbons, chairman of the Committee on X-Ray Fee Schedule, presented the report of his committee.

Moved by Speaker Pallette, seconded by Chairman of Public Relations Dukes, that the report on x-ray fee schedule, as read by Doctor Gibbons, be included in the report of the Council. Carried.

The report of the Council, as amended, was approved, and the chairman of the Council was authorized to submit it to the house of Delegates.

3. **Addresses Made at Special Session of the House of Delegates.**—Editor Kress brought up the question of publication of speeches presented at the president's dinner.

Moved by Speaker Pallette, seconded by Councilor Ullmann, that the decision concerning publication of dinner speeches be taken up at a later meeting. Carried.

4. **Section Paper.**—The attention of the Council was called to a paper to be presented before a section by a physician residing in California who was not a member of the Association and whose application for membership in the County Medical Society had been rejected. It was stated that the delegates from the said county had entered vigorous objection to the aforesaid essayist being on the program.

Moved by Editor Kress, seconded by Councilor Ullmann, that by direction of the Council the secretary be instructed to contact the officers of the Section on Pathology and Bacteriology and inform them that, in accordance with the rules of the Association, they must cancel this paper on the Section program and that the secretary so notify the author by telegram and by letter.

5. **Adjournment.**—On motion duly made, seconded and carried, the Council adjourned to meet at 9 a. m. Tuesday, May 14.

T. Henshaw Kelly, *Chairman.*
F. C. Warnshuis, *Secretary.*

Minutes of the Two Hundred and Thirty-Fourth Meeting of the Council of the California Medical Association

Held in Room 234 of the Ahwahnee Hotel, Yosemite National Park, Tuesday, May 14, 1935, at 9 a. m.

1. **Call to Order.**—The Council was called to order by T. Henshaw Kelly, chairman, with the following members present:

Doctors Clarence G. Toland, president; Robert A. Peers, president-elect; Edward M. Pallette, speaker; T. Henshaw Kelly, chairman; Councilors Morton R. Gibbons, Karl L. Schaupp, Henry J. Ullmann; Alfred L. Phillips, Junius B. Harris, Henry S. Rogers, C. O. Tanner, William H. Kiger; Chairman of Public Relations Committee Charles A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Doctors W. W. Roblee, C. R. Howson, O. D. Hamlin, C. E. Schoff, H. H. Wilson.

2. **Invitation for 1936 Annual Session.**—Invitations for the 1936 annual session of the Association were presented from San Jose, San Diego, Coronado, Del Monte, and Sacramento.

After full discussion, and on motion of Speaker Pallette, seconded by Councilor Kiger and carried, Coronado was designated as the place of the 1936 annual session.

Doctors Peers, Harris, and Phillips voted in the negative.

3. **Kern County Society.**—A letter was read from the Kern County Society stating that the county society funds were entirely exhausted in carrying out educational work within the county and that members had made further personal contributions, and asking that the State Association contribute $250 so that the society could function for the remainder of the year.

Moved by Chairman of the Committee of Public Relations Dukes, seconded by Councilor Ullmann, that a donation of $250 be approved and sent to the Kern County Society so that the county society might function for the remainder of the year. Carried.

4. **Standing Committees.**—Charles A. Dukes, chairman of the committee appointed to present names of nominees for standing committees, submitted the following report:

Committee on Associated Societies and Technical Groups.

William Geistweit	San Diego	1936
J. V. Barrow	Los Angeles	1937
W. J. Kerr (chairman)	San Francisco	1938

Committee on Health and Public Instruction.

W. R. P. Clark	San Francisco	1936
Benjamin Black	Oakland	1937
Fred B. Clarke (chairman)	Long Beach	1938

Committee on History and Obituaries.

J. Marion Read	San Francisco	1936
George D. Lyman (chairman)	San Francisco	1937
Frank R. Makinson	Oakland	1938

Committee on Hospitals, Dispensaries, and Clinics.

Daniel Crosby (chairman)	Oakland	1936
Karl L. Schaupp	San Francisco	1937
John C. Ruddock	Los Angeles	1938

Committee on Industrial Practice.

Mott H. Arnold	San Diego	1936
Harry E. Zaiser	Orange	1937
Morton Gibbons (chairman)	San Francisco	1938

Committee on Medical Defense.

Fred R. DeLappe	Modesto	1936
John P. Nuttall	Santa Monica	1937
G. G. Reinle (chairman)	Oakland	1938

Committee on Medical Economics.

William R. Molony, Sr.	Los Angeles	1936
Willard Stone	Pasadena	1937
John H. Graves (chairman)	San Francisco	1938

Committee on Medical Education and Medical Institutions.

Loren Chandler (chairman)	San Francisco	1936
John B. Doyle	Los Angeles	1937
George Dock	Pasadena	1938

Committee on Membership and Organization.

Dewey Powell	Stockton	1936
Thomas McGavack	San Francisco	1937
Vincent Askey (chairman)	Los Angeles	1938

Secretary ex officio.

Committee on Publications.

Frederick Gundrum	Sacramento	1936
Percy T. Magan (chairman)	Los Angeles	1937
Ruggles Cushman	Talmadge	1938

Secretary ex officio.
Editor ex officio.

Committee on Public Policy and Legislation.

Fred DeLappe	Modesto	1936
E. T. Remmen	Los Angeles	1937
Junius B. Harris (chairman)	Sacramento	1938

President ex officio.
President-elect ex officio.

Committee on Scientific Work.

F. M. Pottenger	Monrovia	1936
Lemuel Adams	Oakland	1937
J. Homer Woolsey	Woodland	1938

Secretary of Section on General Medicine.
Secretary of Section on General Surgery.
F. C. Warnshuis, ex officio, (chairman).

Moved by Speaker Pallette, seconded by Councilor Schaupp, that these members be appointed to the standing committees by the Council and that these appointments be submitted to the House of Delegates for its approval. Carried.

5. **Medical Libraries.**—Moved by Councilor Schaupp, seconded by Councilor Phillips, that an item be included in the budget to provide for a donation of 25 cents per member to Lane Library and to Barlow Library.

6. **Loan from Trustees Of The California Medical Association.**—Moved by Speaker Pallette, seconded by Chairman of Public Relations Dukes, that a request be presented to the Trustees Of The California Medical Association for transfer of not to exceed $20,000 to the California Medical Association for carrying on of the activities of the California Medical Association.

7. **Woman's Auxiliary.**—Moved by Chairman of the Committee of Public Relations Dukes, seconded by Councilor Rogers, that an expression of the Council's appreciation of the efforts of the Woman's Auxiliary in assisting in the defeat of Initiatives No. 9 and No. 17 be sent the Auxiliary by the secretary and that the Auxiliary be given official acknowledgment at the Wednesday evening meeting of the House of Delegates. Carried.

8. **Committee on Practice of Radiology and Pathology in Hospitals.**—Charles A. Dukes, chairman, submitted a report for the Committee on the Practice of Radiology and Pathology in Hospitals.

Moved by President Toland, seconded by Councilor Rogers, that the report of the committee be accepted and the committee be continued. Carried.

9. **Exchange Advertising.**—Editor Kress presented a request from the *Western Journal of Surgery* for an exchange advertising agreement with CALIFORNIA AND WESTERN MEDICINE.

Moved by Chairman of Public Relations Dukes, seconded by Councilor Phillips, that the Council approve this exchange advertising agreement between the *Western Journal of Surgery* and CALIFORNIA AND WESTERN MEDICINE. Carried.

10. **Santa Ana Valley Hospital.** — Correspondence regarding the Santa Ana Valley Hospital was presented and discussed. No action taken.

11. **Legislation.**—Discussion was had of bills pending in the legislature. No action taken.

12. **Adjournment.**—On motion duly made, seconded and carried, the Council adjourned to meet at 1:30 p. m. Wednesday, May 14.

T. HENSHAW KELLY, *Chairman.*
F. C. WARNSHUIS, *Secretary.*

Minutes of the Two Hundred and Thirty-Fifth Meeting of the Council of the California Medical Association

Held in Room 234 of the Ahwahnee Hotel, Yosemite National Park, Wednesday, May 15, 1935, at 1:30 p. m.

1. **Call to Order.**—The Council was called to order by T. Henshaw Kelly, chairman, with the following members present:

Doctors Clarence G. Toland, president; Rogert A. Peers, president-elect; Edward M. Pallette, speaker; T. Henshaw Kelly, chairman; Councilors M. R. Gibbons, W. W. Roblee, C. R. Howson, H. J. Ullmann, A. L. Phillips, O. D. Hamlin, Henry Rogers, Harry H. Wilson, C. O. Tanner, William H. Kiger, J. B. Harris; Chairman of Public Relations C. A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Doctors C. E. Schoff and Karl L. Schaupp.

2. **Financial Statements.** — Financial statements for the months of February, March, and April, 1935, were presented by the secretary.

Moved by Councilor Phillips, seconded by Chairman of Public Relations Committee Dukes, that the financial statements for the months of February, March, and April, 1935, be approved. Carried.

3. **Publicity.** — Milton Silverman, publicity agent, submitted a report on the activities which he had carried on in behalf of the Association during the past two months. Mr. Silverman stated that he would request that his salary be increased to $300 per month and that he be under the direct supervision of Doctors Kelly and Warnshuis.

Moved by President-Elect Peers, seconded by Councilor Howson, that the discussion of publicity be postponed to a later meeting of the Council. Carried.

4. **SERA.**—Cornelius Van Zwalenburg of Riverside addressed the Council on the problem of medical care for those on relief. Doctor Van Zwalenburg stated that the county societies were anxious to receive definite information on the actual plan for caring for those on relief; that at present there seemed to be a tendency to have physicians on a paid salary care for those on relief; that it was the physicians' desire to have the work done on a fee basis and not on a salary basis. Doctor Van Zwalenburg stated that he believed the Council should get behind some definite plan of action and carry it out. The secretary was requested to and did explain the work that the Association was doing in the matter and discussed the difficulties encountered.

5. **Delinquent Members.**—Moved by Councilor Ullmann, seconded by Councilor Tanner, that all members of the California Medical Association who have been reinstated by component county medical societies since April 1, 1935, be reinstated in the California Medical Association. Carried.

6. **Retired Members.**—Membership data and requests from the San Francisco County Society for granting of retired membership to Doctors Emma W. Pope and Victor Vecki, were presented.

Moved by Chairman of Public Relations Committee Dukes, seconded by Councilor Rogers, that Emma W. Pope, M. D., San Francisco, be granted retired membership in the California Medical Association. Carried.

Moved by Councilor Ullmann, seconded by Chairman Public Relations Dukes, that Victor Vecki, M. D., San Francisco, be granted retired membership in the California Medical Association. Carried.

Membership data and request from the Santa Barbara County Society for granting of retired membership to George W. Jean were presented.

Moved by Councilor Ullmann, seconded by Chairman of Public Relations Committee Dukes, that George W. Jean of Santa Barbara be granted retired membership in the California Medical Association. Carried.

7. **Indemnity Defense Fund.** — A letter from Dr. L. P. Adams was read suggesting that another trustee for the Indemnity Defense Fund be appointed in his stead. The secretary stated that Doctor Adams' term as trustee had expired.

Moved by Councilor Rogers, seconded by Councilor Wilson, that an audit of the accounts of the Indemnity Defense Fund be made. Carried.

Moved by President-Elect Peers, seconded by Councilor Wilson, that Lemuel P. Adams be appointed trustee of the Indemnity Defense Fund for a period of three years. Carried.

8. **Advertising in Journal.**—The secretary reported on advertising in the JOURNAL and stated that it was desirable to give the advertising agent notice of termination of contract to fulfill the six months' termination notice contained therein and for the purpose of establishing a new advertising policy and program.

Moved by Chairman of Public Relations Dukes, seconded by Councilor Ullmann, that the secretary be authorized to give the advertising agent notice of termination of the present contract. Carried.

9. **Committee on Physical Therapy.**—The report of J. S. Hibben, chairman of the Special Committee on Physical Therapy, was presented.

Moved by Speaker Pallette, seconded by Councilor Rogers, that the report of the Committee on Physical Therapy be accepted and the committee continued as a special committee of the Council.

10. **Adjournment.**—On motion duly made, seconded and carried, the Council adjourned to meet at 9 a. m. Thursday, May 16, 1935.

T. HENSHAW KELLY, *Chairman.*
F. C. WARNSHUIS, *Secretary.*

Minutes of the Two Hundred and Thirty-Sixth Meeting of the Council of the California Medical Association

Held in Room 234 of the Ahwahnee Hotel, Yosemite National Park, Thursday, May 16, 1935, at 9 a. m.

1. **Call to Order.**—The Council was called to order by the acting chairman, Morton R. Gibbons, with the following members present:

Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; William W. Roblee, speaker; T. Henshaw Kelly, chairman; Councilors C. L. Emmons, Henry J. Ullmann, A. L. Phillips, O. D. Hamlin, Henry S. Rogers, Carl Howson, Junius B. Harris, A. E. Anderson, Harry H. Wilson, C. O. Tanner, W. H. Kiger, Morton R. Gibbons; Chairman of Public Relations Committee Charles A. Dukes, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Doctors C. E. Schoff, Karl Schaupp, and George H. Kress.

2. **Chairman of Committee on Public Relations.**—It was reported to the Council that the Committee on Public Relations had met and elected Charles A. Dukes as chairman of the Committee on Public Relations.

Moved by Councilor Ullmann, seconded by Vice-President Pallette, that the election of Charles A. Dukes as chairman of the Committee on Public Relations for the ensuing year be noted in the minutes. Carried.

3. **Doctors Toland and E. Starr Judd.**—Dr. Clarence Toland presented E. Starr Judd, invited guest of the Association, to the Council. Doctor Toland expressed his gratitude and appreciation to the Council for its coöperation during his term as president and stated that his services were at the command of the Council.

Doctor Judd stated that he had enjoyed attendance at the meeting and that he believed it was the best state meeting he had ever attended.

4. **Chairman of Council.**—T. Henshaw Kelly was nominated as chairman of the Council for a term of one year by Edward M. Pallette. The nomination was seconded by William Kiger. Robert Peers moved that the nominations be closed; seconded by William Kiger. The secretary cast the ballot and announced the election of T. Henshaw Kelly as chairman of the Council for the ensuing year.

At this point Doctor Kelly resumed the chair.

5. **Vice-Chairman of Council.**—Morton R. Gibbons, Sr., was nominated as vice-chairman of the Council for a term of one year by Robert A. Peers. The nomination was seconded by Alfred Phillips.

Edward Pallette moved that the nominations be closed; seconded by William Roblee.

Carl Howson moved that the secretary cast the ballot; seconded by Henry Rogers.

The secretary cast the ballot, and the chairman announced the election of Morton R. Gibbons, Sr., as vice-chairman of the Council for the ensuing year.

6. **Secretary-Treasurer.**—F. C. Warnshuis was nominated as secretary-treasurer and director of the Department of Public Relations for a term of one year by Henry J. Ullmann. The nomination was seconded by C. A. Dukes.

Alfred L. Phillips moved that the nominations be closed; seconded by Edward Pallette.

Carl Howson moved that the chairman cast the ballot; seconded by C. O. Tanner.

The chairman cast the ballot and anounced the election of F. C. Warnshuis as secretary-treasurer and director of the Department of Public Relations for a period of one year. Doctors Dukes and Harris were instructed to advise Doctor Warnshuis of his appointment.

7. **Editor.**—George H. Kress was nominated as editor of California and Western Medicine for a term of one year by Edward Pallette. The nomination was seconded by William Kiger.

Alfred Phillips moved that the nominations be closed; seconded by Henry Rogers.

William Kiger moved that the chairman cast the ballot; seconded by Henry Ullmann.

The chairman cast the ballot and announced the election of George H. Kress as editor of California and Western Medicine for a period of one year.

8. **General Counsel.**—On the motion of Vice-President Pallette, seconded by Councilor Phillips, Hartley F. Peart was appointed general counsel of the Association for a period of one year. Carried.

9. **Associate Counsel.** — On the motion of Vice-President Pallette, seconded by Councilor Gibbons, Hubert Morrow was appointed associate general counsel of the Association for a period of one year. Carried.

10. **Past Presidents.**—Doctor Peers suggested that a notation of esteem be spread on the minutes in relation to past presidents.

Moved by President Peers, seconded by Councilor Ullmann, that the chairman appoint a committee to draft a suitable expression of appreciation to past presidents and that it be spread on the minutes. Carried.

11. **X-Ray Fee Schedule.**—The appointment of a committee to contact the Industrial Accident Commission was brought up and, on motion of Chairman of Public Relations Dukes, seconded by Councilor Phillips, the matter was deferred until the next meeting of the Council.

12. **Date of Council Meeting.**—On motion of Pallette, seconded by Dukes, the date of the next meeting of the Council was set as May 25, 1935, at San Francisco, at 10 a. m.

13. **Adjournment.**—On motion duly made, seconded and carried, the meeting adjourned.

T. Henshaw Kelly, *Chairman.*
F. C. Warnshuis, *Secretary.*

COMPONENT COUNTY MEDICAL SOCIETIES

HUMBOLDT COUNTY

On April 18 the Humboldt County Medical Society held its regular meeting at the St. Joseph's Hospital, President Charles C. Falk, Jr., presiding. Seventeen members and thirteen visitors were present. A great deal of discussion was held on different amendments before the State Legislature.

The paper of the evening was read by Dr. Howard Ruggles of San Francisco—*X-Ray Therapy of Lungs, Abdomen, and Kidneys.* Doctor Ruggles showed pictures of interesting cases and explained the diagnostic points of each. The members and guests greatly enjoyed this paper.

A communication was received from Dr. Emmet Rixford stating that he would be unable to be present on May 16 and asking that the meeting be postponed until May 23. His request was granted.

* * *

The May meeting of the Humboldt County Medical Society was held on May 23 at the Eureka Inn with a seven o'clock dinner. There were nineteen members present, with Dr. Emmet Rixford of San Francisco as our guest.

Amendments were again discussed, especially Bill 471. Motion was carried to have our president telephone Dr. Junius B. Harris for details, and he was authorized to take such action as is necessary.

A report of the State Association meeting was made by Doctor Stegeman, who especially complimented Dr. Junius B. Harris for his excellent activities pertaining to legislative work at Sacramento.

Dr. Emmet Rixford then presented his paper on *Surgery of the Gall-Bladder and Stomach,* bringing out many important diagnostic points and citing cases which were very interesting. Doctor Rixford was given a vote of thanks for coming to us.

Lawrence A. Wing, *Secretary.*

LASSEN-PLUMAS COUNTY

A meeting of the Lassen-Plumas County Medical Society was held on the night of May 3 at the home of Dr. Fred J. Davis in Westwood. Members present were: Doctors Fred J. Davis, Sr., Fred J. Davis, Jr., Herman Levin of Westwood, Fred J. Lasswell of Quincy, Phillip McKenney of Alturas; George S. Martin, G. R. Fortson, and C. I. Burnett of Susanville. After a splendid dinner, served by Mrs. Davis, to the members of the Society and of the Auxiliary, the meeting was called to order by President Lasswell.

Dr. Fred J. Davis, Sr., was elected president and Dr. C. I. Burnett reëlected secretary for the ensuing year.

It was moved, seconded and carried, that the secretary petition the State Secretary to have our charter amended and have our Society known as the Lassen-Plumas-Modoc County Medical Society.

Doctor Martin invited the members to hold their next meeting, date to be fixed by the president and Doctor Martin, at the latter's home in Susanville.

After the business meeting was closed, short papers were read by the members present and a general discussion followed. Dr. and Mrs. Davis were tendered the thanks of the Society for a most enjoyable meeting.

C. I. Burnett, M. D., *Secretary.*

⁂

MARIN COUNTY

The regular meeting of the Marin County Medical Society was held on May 23 at the Paloma Inn.

Dr. Mary Harris, the delegate to the State Association convention at Yosemite, made an interesting report on the proceedings there. The committee report on the SERA program was discussed and accepted and referred back to the SERA officials for action.

C. W. Clark, *Secretary.*

⁂

ORANGE COUNTY

The regular meeting of the Orange County Medical Association was held on June 4, and was devoted to a special program by the postgraduate committees of Orange, San Bernardino, and Riverside counties. The program was as follows:

Treatment of Fractures of the Long Bones of the Lower Extremities—Dr. Vernon P. Thompson. *Toxemias of Pregnancy*—Dr. Donald O. Tollefson. Dinner at Orange County Hospital (complimentary). *Surgical Relief of Ulcer of the Stomach*—Dr. Charles E. Phillips. *Treatment of Sinusitis*—Dr. Pierre P. Viole. *Coronary Thrombosis—Management and Treatment*—Dr. D. Richmond Ware.

There were about 140 present for dinner, including two past presidents of the California Medical Association, Doctors Clarence Toland and Joseph M. King. Dr. J. L. Maroon presided. The meeting was very stimulating and well worth while, and the members looked forward to more of a similar nature next year.

* * *

A business meeting of the Association was held on June 11. At this meeting the reports of the delegates to the State Association convention at Yosemite were heard. The manager of the Medical Bureau reported a very satisfactory beginning for this organization.

Doctor Zaiser read a letter from the State Chamber of Commerce pertaining to the formation of the California Forest Medical Corps. Physicians are asked to give voluntary first aid service when needed in caring for persons injured in fighting fires, serve two years without remuneration, receiving a distinctive "Forest Fire" tag for automobile, a badge to wear, and a certificate for display in their office. Several other matters were taken up and the meeting adjourned at a late hour.

Waldo S. Wehrly, *Secretary.*

⁂

PLACER COUNTY

The Placer County Medical Society held its June meeting at the Freeman Hotel, Auburn, Saturday evening, the 8th. The meeting was called to order by President Louis E. Jones.

In addition to the members, the Society had as visitors, Dr. C. E. Schoff, district councilor, and Mr. Stuart L. Fletcher, area director of SERA.

President Jones stated that this meeting was called for the purpose of discussing a plan for coöperation with the SERA in providing medical care for persons on relief. In accordance with the action of the Society at its April meeting, the president had appointed the following committee: Dr. Louis E. Jones (chairman), Dr. R. C. Atkinson, and Dr. C. E. Lewis. The president then presented the plan which had been worked out in conjunction with Mr. Fletcher and, after general discussion, it was moved by Secretary Peers, seconded by Doctor Eveleth, that the plan as presented by the committee be accepted together with any further fee schedule approved by the State committee and that the secretary notify Mr. Fletcher in writing of this action. Motion carried unanimously.

The Society then took up the regular business of the meeting.

Secretary Warnshuis' monthly letter of May 31 was read and the secretary was instructed to send to Secretary Warnshuis a list of the public libraries in Placer, Nevada, Sierra, and El Dorado counties.

The following applications for membership were read: Dr. Bernard W. Hummelt of Nevada City and Dr. Walton Prescott of Colfax.

Dr. Lucas W. Empey of Roseville gave a report as delegate to the State Association meeting at Yosemite. Doctor Empey commented on the program and also upon the proceedings of the House of Delegates.

Dr. C. E. Schoff, district councilor, who was present, addressed the Society and informed the members regarding the status of various bills before the legislature which have a bearing upon medical practice.

Doctor Empel introduced a resolution in reference to the attitude of the Placer County Medical Society toward the summer round-ups of preschool children. The secretary was instructed to send a copy of this resolution to each member of the Society, with a note that it would come up for action at the next meeting.

The secretary then read the constitution of the local society and suggested that a new constitution should be adopted very shortly.

Robert A. Peers, *Secretary.*

⁂

SACRAMENTO COUNTY

A regular meeting of the Sacramento Society for Medical Improvement was called to order by President Orrin S. Cook on Tuesday evening, April 16. The meeting place was the Elks Building. Seventy-six members and guests were present.

Dr. Joseph H. Catton of San Francisco was the speaker of the evening. He spoke interestingly and amusingly of a number of murder trials in which he had played the part of an expert witness. In closing, he made a few remarks in favor of the compulsory health service bill (Senate Bill No. 454), now being debated in the State Legislature, and introduced Professor Canning of Stanford University, who had a great deal to do with the actual framing of the bill.

Professor Canning made a few remarks and answered questions regarding Senate Bill No. 454.

Dr. Nathan G. Hale made a few remarks against Senate Bill No. 454.

After a general discussion the meeting adjourned.

F. W. Lee, *Secretary.*

⁂

SAN BERNARDINO COUNTY

The meeting of the San Bernardino County Medical Society was held at the Patton State Hospital on Tuesday, June 11. Dinner was served at the hospital cafeteria.

The meeting was called to order by the first vice-president, Dr. Walter Cherry. About fifty members and guests were present. The applications for membership from Dr. William T. Engleman of San Bernardino and Dr. John B. Staub, Jr., of Redlands were voted on and accepted. Letters from Dr. J. W. Moreland and Dr. F. C. Warnshuis, in regard to the SERA medical program, were read. Doctor Wylie explained the newly created Committee on Public Relations.

The program of the evening was given as follows: *Syphilitic Diseases of the Brain and Spinal Cord*, by Dr. J. J. Cecil; *Dementia Praecox* by Dr. Harry S. Blossom.

Each paper was illustrated by the presentation of patients. The discussion was led by Dr. G. Max Webster.

A. E. Varden, *Secretary.*

SAN JOAQUIN COUNTY

The regular monthly meeting of the San Joaquin County Medical Society was held on June 6 at the new Hotel Basque, Stockton, at 7:15 p. m. President C. A. Broaddus presided.

Doctors Broaddus and D. Powell presented a report on the California Medical Association's convention in Yosemite Valley.

A musical program was furnished by Dr. Van Meter, through the courtesy of radio station KGDM.

The application of Dr. George Wever for membership in the Society was presented and referred to the Committee on Admissions. The Committee on Admissions reported favorably on the petition of Dr. Martin Karr of Sonora, and he was declared elected to membership in the San Joaquin County Medical Society.

The papers of the evening were given by Doctors D. Delprat and G. F. Cushman. Both of these speakers were from the California Public Health League. Their topic was *Present-Day Trend of Medical Economics.* The papers were discussed by Doctors D. Powell, Latta, Peterson, Broaddus, Van Meter, Rohrbacher, Cushman, and Delprat.

A very fine dinner was enjoyed by all, and the meeting adjourned at 10:45 p. m.

G. H. Rohrbacher, *Secretary.*

SISKIYOU COUNTY

The regular meeting of the Siskiyou County Medical Society was held at the home of Doctor Runckel at McCloud on Sunday, May 26, Doctor Campbell presiding.

Senate Bill No. 471 was discussed, and it was voted to wire our representatives to aid in the defeat of this bill. There was spirited discussion on the County Hospital situation, based on the fact that so many nonindigent patients are admitted to that hospital as indigents because of political favor. It is thought that the checking of the power of the Supervisors is an absolute necessity for the economic lives of the independent physicians and surgeons. Action will soon be taken in an attempt to wrest this political football from the Supervisors and give it to a Social Service Department.

Two films, *Extraperitoneal Cesarean Section* and *Forceps Delivery,* were enjoyed by the members. These films were sent, as they have been for the past four months, by the Davis and Geck Suture Company.

After the regular meeting, a dinner was served to the members of the Society and to the newly formed Woman's Auxiliary, with its guest of honor, Mrs. Sargent of Oakland. From the enthusiastic reports, it is quite evident that the women liked State Auxiliary Officer Sargent, as well as their new organization.

Our next meeting is to be held in Yreka, July 7.

Leslie J. Seeley, *Secretary.*

SONOMA COUNTY

The Sonoma County Medical Society held a well-attended and enthusiastic meeting at the Occidental Hotel in Santa Rosa, June 13. In addition to the regular members, some lay guests, representing civic bodies and the County Board of Supervisors, were present, the occasion being an address by Dr. I. O. Church, assistant medical director of the Alameda County Hospital, who was the guest speaker. He graphically explained, by the use of maps and charts, the splendid system in effect in Alameda County for the care of indigent sick, both in their hospitals and in their out-patient clinics.

Sonoma County is contemplating the erection of a modern county hospital, and it is the desire of the county medical society that a modern up-to-date and effective hospital system may be developed whereby the county medical society may coöperate with the county physicians in the care of county cases.

Doctor Church's remarks carried considerable conviction and impressed those present with the truths therein contained. Remarks by others present followed.

Dr. Josephine Williams and Dr. C. A. O'Connor of Eldridge were elected to membership. Dr. M. E. Porter, late of Santa Clara but now located at Eldridge, was elected to membership by transfer card.

Several resolutions were passed. A vote of confidence and esteem was given Dr. Junius B. Harris for his untiring efforts in the behalf of organized medicine, and the secretary was instructed to write a letter to Doctor Harris setting forth these facts.

W. C. Shipley, *Secretary.*

TULARE COUNTY

The final spring meeting of the Tulare County Medical Society was held on June 2 at 6:30 p. m. Dinner preceded the educational program. In the absence of President Ray Rosson, who is confined to the hospital because of recent illness, Vice-President Lipson presided.

Dr. Karl Weiss reported on the State Association convention at Yosemite and summarized the essential actions taken by the House of Delegates. Dr. A. E. Anderson's election as councilor of the fourth district was unanimous.

Doctor Fillmore made a motion to appoint a committee for consideration of a fee schedule and reconsider the prevalent fee for autopsy reports and examinations for sobriety. This motion was carried.

A letter from Doctor Warnshuis informing us of the election of Dr. J. Tracy Melvin to retired membership was read.

Dr. E. C. Bull of San Francisco presented the scientific paper of the meeting, on the subject of *Fractures About the Ankle.* A series of x-rays were used in demonstration of the types described, and particular emphasis was placed on treatment of these fractures. Open discussion followed the paper, and Doctor Bull was asked and answered a multitude of questions regarding practical procedures in orthopedic care.

Karl F. Weiss, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (19)

Butte County.—Dorothy C. Lord.

Fresno County.—Klenner F. Sharp.

Lassen-Plumas-Modoc County.—James D. Coulter.

Los Angeles County.—Wilbur Bailey, David R. Dodge, Jr., Vernon L. Evans, Cecil C. Hunnicutt.

Sacramento County.—Edward C. Faulkner.

San Francisco County.—William S. Cary, Donald W. deCarle, Harold A. Hill, Morris M. Kirskey, Ann P. Purdy, Archie D. Sinclair, W. Parker Stowe.

San Joaquin County.—Martin Karr.

Santa Clara County.—G. Gage Wetherill.

Sonoma County.—Roscoe L. Zieber.

Tulare County.—John S. Glenn.

Transferred (2)

Lloyd C. Austin, from Santa Clara County to Los Angeles County.

Margaret A. Eakin, from San Francisco County to Fresno County.

In Memoriam

Dudley, William H. Died at Glendale, June 9, 1935, age 80. Graduate of the New York University Medical College, New York, 1882. Licensed in California in 1906. Doctor Dudley was an honorary member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

MRS. THOMAS J. CLARK ....President
MRS. ELMER BELT......Editor and Chairman of Publicity

State Auxiliary News

New State Board.—At the closing session of the sixth annual convention of the Woman's Auxiliary to the California Medical Association, Mrs. Philip Schuyler Doane, the retiring president, introduced and installed the incoming State officers and directors for 1935-1936. Mrs. Thomas J. Clark, the new president is from Alameda County and has served the Auxiliary in both county and state posts. She enters her work with a valuable background of experience and an understanding enthusiasm for the future. The president-elect, Mrs. Andrew J. Thornton, San Diego's first candidate for the presidential chair, has been presiding officer for her county and carried through to completion their pool of crippled children. Mrs. William H. Sargent of Oakland continues in her office as first vice-president, where she has already demonstrated her substantial worth as chairman of Organization and Membership. Mrs. John V. Barrow of Los Angeles, the new second vice-president, has to her credit outstanding accomplishments both as president of the largest county unit and as state chairman of Public Relations. In turning over to Mrs. Barrow the portfolio of Program and Health Education, the State Auxiliary has entrusted to her its greatest possibility for creative, constructive building. All who have watched her work know that trust is well placed. The recording secretary, Mrs. C. Kelly Canelo of San Jose, comes from the new Santa Clara group, whose first presiding officer she has been. For her corresponding secretary, the president has appointed Mrs. David E. Froelich of Oakland, with whom she has often been associated in community and church work. The new treasurer, Mrs. Frank Makinson of Piedmont, is the wife of the Alameda County Medical Society president. Her household should be fairly humming with organization activities.

Of the four councilors-at-large, Mrs. Frederick N. Scatena is long and well known in Auxiliary service. The other three are new to the state board: Mrs. Ray C. Green of Fullerton is this year's president for Orange County; Mrs. Mark Glaser, who has had charge of *Hygeia* for Los Angeles County and for the western division on the National Board, now assumes its direction for the State, and Mrs. Arthur Annis of Los Angeles is on her county board.

Among the district councilors, three continue from last year: Mrs. W. H. Newman of San Diego for the first district, Mrs. Elmer Belt of Los Angeles for the second, and Mrs. F. J. Conzelmann of Stockton for the fourth. For the third, Mrs. N. N. Brown, the Kern County president, was chosen; for the fifth, Mrs. John H. Shephard of San Jose. This is the first time the fifth district has been represented in the Auxiliary, and is due, of course, to the organization of Santa Clara. Mrs. S. N. Weil of Contra Costa County will represent the seventh district and Mrs. Junius B. Harris of Sacramento, the eighth.

* * *

Northern Outpost.—Just before leaving for the national convention in Atlantic City, Mrs. Thomas J. Clark sent in word that the organization of an Auxiliary in Siskiyou was completed. Mrs. William H. Sargent, following the Yosemite meeting, journeyed to this northernmost county and aided in the final plans. She reports an enthusiastic group there backed by the support of their entire medical society. Mrs. Leslie J. Seeley of Etna has been chosen president, Mrs. J. B. McGuire of Shasta City, vice-president, and Mrs. C. C. Dickinson of McCloud is secretary-treasurer. Greetings and good wishes to them all.

* * *

In Retrospect.—There can be no doubt that the Yosemite convention this year marked a high tide in Auxiliary achievement. Thoughtfully planned, ably organized and directed by the friendly and masterly genius of the state president, the business sessions proceeded with model efficiency, and the social diversions with a pleasing graciousness. And now before it is all wrapped away in memory stuff, there should be recorded a few incidents which, unplanned in the routine, gave the proceedings some happy accents of surprise. The first came as an acquisition of property for the state board, in the presentation of a handsome gavel—carved of Sequoia wood and girdled with California gold—a gift given in honor of one who has served the Auxiliary well, Helen Stewart Doane, by her fellow members of Pasadena. Then, in the closing minutes of the first session came the surprise announcement of the formation of an Auxiliary in San Francisco County. The news, brought in person by the secretary of their medical society, brought a burst of applause. On the second day came the award of the coveted Membership Trophy, and that was another surprise; for it went to San Joaquin, who all year long had been so silent and so shy that no one for one moment suspected that they were fomenting designs for carrying off the cup. But carry it off they did, borne proudly in the hands of their new president, Mrs. S. W. R. Langdon of Stockton. Finally, in the last five minutes of the last business meeting there was the dramatic entry of our missing chairman of hostesses, the Auxiliary's fifth State president, Mrs. Andrew Mitchell Henderson of Sacramento, who arrived just in time to surrender her title of junior past president to its new possessor, Mrs. Doane. So at the luncheon honoring Mrs. Clark four past presidents graced her table—the Right Honorable Mesdames Percy, Sargent, Henderson, and Doane. On this good note of cordial coöperation from north to south, from régime to régime, the sixth annual convention of the Woman's Auxiliary to the California Medical Association stepped gracefully into history.

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County Auxiliary Reports

Alameda County.—The last meeting of the Alameda Auxiliary before the summer vacation was held on May 17 at the Claremont Country Club. This was the annual Mother's Day program, and in their honor a special musical feature of harp selections, played by Miss Ann Everingham, was arranged. Dr. Don Weaver spoke upon *The Treatment of Burns.* Mrs. William H. Sargent introduced a group of doctors' wives from San Rafael who are active in the organization of a medical auxiliary in Marin County.

The business meeting following the program was devoted to "Convention Echoes and Impressions." Mrs. Thomas J. Clark, president of the Woman's Auxiliary to the California Medical Association, gave a brief talk entitled *A Forward Look.* There were many Alameda members at the recent convention at Yosemite, and the following ones from the East Bay district served on various committees: Mesdames C. E. Peters, Hobart Rogers, C. A. Dukes, L. H. Dyke, R. A. Peers, H. D. Barnard, A. A. Alexander, Harold Trimble, J. N. Ewer, besides the regular state officers who represent Alameda.

There was added to the Students' Loan Fund this month $200, made from a most successful card party given by the Auxiliary on April 30.

LAURA S. HENRY, *Publicity Chairman.*

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Los Angeles County.—Brisk sea breezes, glimpses of gleaming sands, awesome battleships riding at anchor on the blue-gray ocean, all served to give the April meeting of the Auxiliary, held at the Pacific Coast Club in Long Beach, a decidedly nautical flavor. The speakers' table was decorated with a stately floral ship, and further decorated by the wives of navy doctors, Dr. and Mrs. D. C. Sigworth representing the

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* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

Harbor Branch, Dr. and Mrs. Frank B. Young of the Academy of Medicine, and Dr. Milton Van Dyke of the Galen Club. Preceding the luncheon the pool of the club was open for swimming and for an exhibition of diving by Mrs. Dwight Young, national and Olympic champion. About 140 members attended the lunch; the long Beach group, who were hostesses for the day, had one of their number at each table. Mrs. John V. Barrow, the county president, and all the Auxiliary there welcomed Mrs. Philip Schuyler Doane, who had made sufficient recovery from her recent accident to be present. Mrs. Doane responded to their greeting with a few words in her inimitable fashion. Mrs. Walter H. Boyd was in charge of the program for the day and introduced the guests at the speakers' table, concluding with the presentation of Mrs. Steele F. Stewart, who gave a spirited reading of "Yellow Jack," a play written by Sidney Howard and Paul deKruif, dealing with the dramatic victory of medical science over yellow fever.

An assembly tea, attended by over fifty guests, was given in the fifty-seventh district at the home of Mrs. Elmer Belt. Mrs. Maxwell Fields, Mrs. Jerry Lacoe, and Mrs. R. W. Meals acted as hostesses; Mrs. George Parrish, Mrs. Joseph Robinson, and Mrs. William Swim poured. Mrs. John Barrow explained the purposes of the Auxiliary, Mr. Philip Dare sang a group of English ballads, and Dr. E. T. Remmen discussed the social security bill.

We are proud to announce the appointment of two of our members to serve on important commissions. Mrs. Vincent Bonfiglio is a member of the County Welfare Relief Commission, which acts as an advisory committee to the supervisors, and Mrs. Elmer Belt has recently been appointed vice-chairman of the SERA Advisory Committee for Transient Men. Both of these commissions are working with the problems of organized relief and of the rehabilitation of the unemployed.

The May meeting, the last of the year, was held in the Association building on the 28th, with Mrs. John V. Barrow presiding. Mrs. Barrow reported on the work of the annual State Association convention at Yosemite, and introduced the speaker of the day, Dr. Joseph K. Swindt of Pomona, who presented a very comprehensive paper on *Cults.* There have been in May two assembly teas: one on the 7th at the home of Mrs. W. H. Leake, and another, two weeks later, at the home of Mrs. A. M. Hansen.

The Public Relations Committee, under the chairmanship of Mrs. Charles Decker, past State President of the American Legion Auxiliary, has been particularly active this year. Among its achievements are included the sponsoring of six programs dealing with the "Safety of Motherhood," presented before the American Legion Auxiliaries, and eleven programs on public health presented before Parent-Teacher Associations.

Mrs. H. E. Crowe, *Corresponding Secretary.*

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Orange County.—Mrs. Ray C. Green of Fullerton was chosen president of the Woman's Auxiliary to the Orange County Medical Association at their April meeting at the home of Dr. Arthur Robbins in Garden Grove. Officers to serve with her will be Mrs. K. H. Sutherland of Santa Ana as vice-president, Mrs. E. K. Kersten of Anaheim as secretary, and Mrs. G. W. Olson of Fullerton as treasurer. Mrs. Harry Huffman, the retiring president, presented each of the new officers with a beautiful corsage. Associated with Mrs. Robbins as hostesses for the day were Mesdames H. S. Gobar, Harry E. Zaiser, R. C. Cochran, and Ray C. Green. They presented an interesting program featuring an address by Dr. H. A. Johnston of Anaheim on the *Romance of Medicine.* There was much discussion of this interesting talk during tea time, which followed. Mrs. John Wehrly and Mrs. C. S. O'Toole presided at a table bright with blue delphinium and yellow snapdragons.

On June 4 the Orange County Auxiliary met for the first time under the leadership of its new president, Mrs. Ray C. Green, at the home of Mrs. G. I. Sellon in Fullerton. Vivid reports of various phases of the State Association convention were given by Mesdames Herbert A. Johnston, Hiram Currey, Ray C. Green, G. W. Olson, and D. C. Cowles. They projected into the year's work the inspiration received from the convention. Word of the honor accorded Orange County in the appointment of Mrs. Ray C. Green as a councilor-at-large and chairman of Public Relations for the State was enthusiastically received. The following chairmen of standing committees were appointed: Program, Mrs. K. H. Sutherland; Hospitality, Mrs. D. C. Cowles; Membership, Mrs. Herbert A. Johnston; Student Loan, Mrs. Frank E. Coulter; Flowers, Mrs. Milo K. Tedstrom; Constitution and By-Laws, Mrs. H. D. Newkirk; Public Health, Mrs. Edw. Lee Russell; *Hygeia,* Mrs. Dexter R. Ball; Publicity, Mrs. G. Emmett Raitt. Aims that might be reached by some of the committees were suggested by the president. The Fullerton High School male quartet entertained with several popular songs. and Mrs. Sellon and her assisting hostesses, Mesdames D. C. Cowles, G. Wendell Olson, Claude Steen, and E. J. Steen, served a delightful tea.

Mrs. G. Emmett Raitt, *Publicity Chairman.*

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Sacramento County.—The Woman's Auxiliary to the Sacramento Society for Medical Improvement held its April meeting on the 16th at the home of Mrs. Leo Farrell, with the president, Mrs. Frederick Scatena, presiding. Mrs. David F. Dozier reported on the dinner dance to be held at the Del Paso Country Club on May 4. Mrs. A. M. Henderson discussed the tea for the Sacramento County Nurses' Association. It was decided to hold it in June at the home of Mrs. C. B. Jones, with the members of the Auxiliary as hostesses to furnish the refreshments. After the business meeting, the sixty members present played bridge and enjoyed a delicious tea, served by Mrs. Farrell, assisted by her mother; also by Mesdames Margaret Farrell, Max Isoard, James Coyle. C. S. Schoff. L. B. Barnes, Proctor Day, F. A. McDonald, and N. G. Hale.

The May meeting of the Sacramento Auxiliary was held Tuesday evening, the 21st, at the beautiful new home of Mrs. E. O. Brown on Forty-sixth Street. At the business session, Mrs. Scatena presided and reported on the State Association convention. Mrs. Dave Dozier told of the musicale at the convention, which was furnished entirely by splendid talent from Sacramento. The evening's program consisted of songs by Miss Beth Wentz, accompanied by Mr. Eugene Huston, and a most interesting review of "Time Out of Mind" by Miss Mary Cravens. Mrs. E. O. Brown, assisted by Mesdames O. F. Johnson, D. L. MacLean, Thomas Haig, Herbert Burden, L. A. Anthony, H. S. True and Walter J. Hicks, served a delightful tea.

Sarah L. Brendel, *Corresponding Secretary.*

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Santa Barbara County.—The Woman's Auxiliary to the Santa Barbara County Medical Society met at the home of Mrs. Albert J. Holzman on May 6. Sixteen members were present. Mrs. Van Paing presided and announced that Helen Anlauf would be eligible for the nurses' award given by the Auxiliary on May 12 at the St. Francis Hospital. Mrs. Edward J. Lamb and Mrs. Edward L. Markthaler were chosen as delegates for the State Association convention in Yosemite. In the absence of Mrs. H. E. Henderson, chairman of the Nominating Committee, Mrs. Stevens presented its report: For president, Mrs. Horace F. Pierce; vice-president, Mrs. F. G. Hombach; secretary. Mrs. Harold Schwalenberg; treasurer. Mrs. Edward Markthaler. The principal speaker of the day was Dr. Susanne Parsons, who in a delightfully informal way discussed social and cultural changes occurring in China today. Having taught obstetrics and gynecology at Yale, at Changcha in the China Medical School, and at the Woman's Medical College at Shanghai, Doctor Parson's observations covered a wide field and were particularly illuminating. Following the meeting the members retired to the dining room, where Mrs. Johnston and Mrs. Stevens presided at an attractively appointed tea table.

Mabel C. Hunt, *Secretary.*

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

California Medical Association, Coronado, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco Secretary.

Nevada State Medical Association, Elko, Nevada, October 25-26, 1935. Horace J. Brown, P. O. Box 698, Reno, Secretary.

North Pacific Pediatric Society, Seattle, August 9-10, 1935. F. H. Douglass, M. D., 509 Olive Street, Seattle, Secretary.

Medical Broadcasts*

San Francisco County Medical Society.—The radio broadcast program for the San Francisco County Medical Society for the month of June is as follows:

Tuesday, July 2—KJBS, 11:15 a. m., and KFRC, 1:15 p. m.
Tuesday, July 9—KJBS, 11:15 a. m., and KFRC, 1:15 p. m.
Tuesday, July 16—KJBS, 11:15 a. m., and KFRC, 1:15 p. m.
Tuesday, July 23—KJBS, 11:15 a. m., and KFRC, 1:15 p. m.
Tuesday, July 30—KJBS, 11:15 a. m., and KFRC, 1:15 p. m.

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Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of June is as follows:

Tuesday, July 2—KECA, 11:15 a. m. Subject: The New Frontier.
Saturday, July 6—KFI, 9 a. m. Subject: The New Frontier.
Saturday, July 6—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, July 9—KECA, 11:15 a. m. Subject: The New Frontier.
Saturday, July 13—KFI, 9 a. m. Subject: The New Frontier.
Saturday, July 13—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, July 16—KECA, 11:15 a. m. Subject: The New Frontier.
Saturday, July 20—KFI, 9 a. m. Subject: The New Frontier.
Saturday, July 20—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, July 23—KECA, 11:15 a. m. Subject: The New Frontier.
Saturday, July 27—KFI, 9 a. m. Subject: The New Frontier.
Saturday, July 27—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, July 30—KECA, 11:15 a. m. Subject: The New Frontier.

American Public Health Association and Meetings of Related Organizations, Milwaukee, October 7 to 12, 1935.—More than two thousand professional public health workers from every state in the Union, from Canada and from Mexico, will assemble in Milwaukee the week of October 7, at which time the following organizations will be in convention: American Association of School Physicians; International Association of Dairy and Milk Inspectors; Conference of State Sanitary Engineers; International Society of Medical Officers of Health; Association of Dairy, Food, and Drug Officials; Conference of Wisconsin Health Officers.

The scientific programs total four hundred presentations on subjects timely in the fields of public health, preventive medicine, and sanitation.

University of California Hospital Holds Interesting Exhibit.—One of the most interesting exhibits at the recent exposition of Community Chest agencies in San Francisco was provided by the University of California Hospital. Two Drinker respirators, one for an adult and one for a child, and an oxygen tent, all in full operation, drew many thousands of visitors. A technician explained the workings of the three devices to the interested throngs, and was asked many questions regarding them.

Lifelike human dummies or "dolls" were provided for the respirators and the oxygen tent, all of which were so arranged and lighted that every detail could be witnessed by the spectators. The regular breathing of the two figures in the respirators occasioned many inquiries as to whether they were actually alive.

The smaller of the respirators has seen actual service at the hospital, but the larger one has not yet been used for a patient.

Ninety agencies of the Community Chest participated in the exposition, which was held under the sponsorship of the Junior Chamber of Commerce. The out-patient department of the University Hospital is one of these agencies.

Tulane University Celebrated Hundredth Year on June 8 to 12.—In connection with its commencement exercises, and in commemoration of its achievement of a full century of medical and other higher education, Tulane University of Louisiana celebrated with an elaborate program. . . . Not only was credit given to the Tulane School of Medicine for its notable contributions to medical research and clinical application and practice, but also for its large contribution to the health and well-being of the people of the South, Southwest, and Central America, through the 6,500 and more doctors which Tulane has graduated during the century of its existence.

Located adjoining the great, state-operated Charity Hospital, in the port city of New Orleans; equipped with the most modern and expertly planned medical plant in the South; with a faculty of more than 150 recognized medical experts; and with unexcelled facilities for practical, clinical teaching, the Tulane School of Medicine and the Graduate School of Medicine today present a vivid contrast with the beginning one hundred years ago. . . .

Pioneering and leading in the study of tropical diseases, the members of the Tulane Medical Faculty and Alumni have made important contributions to the knowledge and control of diseases peculiar to tropical climates—such as malaria, yellow fever, cholera, beriberi, leprosy, amebic dysentery, etc. And its graduates have achieved distinction in all branches of medicine. To mention only one—Dr. Rudolph Matas, now Professor Emeritus of Surgery for his Alma Mater, has gained international renown for his contributions to the science and practice of vascular surgery. Doctor Matas holds a long string of titles and honors from medical schools and medical associations throughout the world.

The fact that New Orleans is, today, a healthy city of a half-million population, and is recognized as one of the world's outstanding medical centers, is due in great measure to the one hundred years of effort of the School of Medicine of Tulane University. From every state, and from almost every country of the world, men and women have come to Tulane for a medical education.

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* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to CALIFORNIA AND WESTERN MEDICINE, 450 Sutter Street, San Francisco, for inclusion in this column.

Pacific Coast Society of Obstetrics and Gynecology. The annual meeting of the Pacific Coast Society of Obstetrics and Gynecology will be held in Los Angeles, November 6 to 9. Further information may be secured from Dr. T. Floyd Bell, Secretary, 400 Twenty-ninth Street, Oakland.

American Psychiatric Association.—The Committee on Publication feels that its principal objective should be the reëducation of the public by the gradual building up in the lay mind of a sensible and healthy conception of what psychiatry really is and what psychiatrists are trying to do.

To do this, they feel they must discourage the publication of popular, and sometimes lurid articles of an unscientific nature, and consistently observe a conservative and dignified policy of stressing only purely scientific matters.

Due credit was paid the press for its coöperation during the last meeting in helping to disseminate information concerning the standards and policies of the American Psychiatric Association.

It was pointed out that in the near future the Association would have to adopt uniform policies and procedures governing the public utterances of its members in a manner similar to other scientific bodies.

The committee now is organized to function on a full-time basis and plans to render services during the entire year.

Crime Control Is University Problem.—The control and regulation of crime should be developed by the University in the same manner that it has developed major procedures for the guidance of agriculture, education and public health, in the opinion of Dr. H. M. Adler, professor of psychiatry at the University of California, and nationally known criminologist.

The examination of chronic criminal types by university clinics equipped for that purpose and the education of peace officers by the university, should be established just as the university hospital and clinics have been established for the study of disease and its treatment and the education of doctors and dentists, Doctor Adler pointed out.

"We must reconcile ourselves to the fact that a large number of delinquents do not respond to the processes of juvenile courts, correctional schools, parole or probation," Doctor Adler said. "All existing agencies have failed in the handling of this problem. The peace officer of the future, therefore, must be trained in classifying the different types of delinquency and applying the proper treatment to each.

"We have already determined that the intelligence quotient is only indirectly related to delinquency, and that environment is not the determining factor that many believe it to be. There are more non-delinquent than delinquent feeble-minded, for instance. The average intelligence of penitentiary inmates is just as high as that on the outside. Likewise, all criminals do not come from supposedly unfavorable environments. That leaves the causes of delinquency a matter of guesswork.

"All of which impresses the necessity of determining delinquency trends and factors as early as possible, and this can be done best through the keenly calculating, scientific procedures developed by the university. We must accept a certain minimum as confirmed and chronic criminals whose conduct cannot be affected by any present type of treatment, and they constitute the greatest menace to society. They must be studied clinically and the factors causing their delinquency must be determined. From this study must be developed a new type of peace officer who will be able to determine mental trends and such puzzling factors as racial and environmental influences, and a type of treatment fitted to the needs of this particular criminal class. The university is best equipped to handle this problem."

The Association of Western Hospitals (formerly Western Hospital Association) announces that the 1936 convention will be held the week of April 20 in San Francisco.

In response to the large number of requests, it has been decided to have at least a two-day institute in connection with the convention. The details of convention arrangements will be announced later in the year.

Just What Are Nuisances?—Answered in the Statute. Once on a time Blackstone's "Commentaries on the English Law" was the foundation upon which budding young attorneys built. Among other things he wrote: "A nuisance signifies anything that worketh hurt, inconvenience or damage."

Health officials are interested only in those nuisances of a public nature which affect, or are considered by law to affect health, yet every health commissioner has learned that there seems to be no definite limit in the minds of the people between those nuisances that are actually detrimental to public health, those that are presumed to be so by popular tradition and their own private personal grievances, so he often encounters angry individuals who want things over which he has no jurisdictional remedies at once.

Nuisances offensive to public health are thus defined by Ohio law (G. C. 12646):

"Whoever erects, continues, uses or maintains a building, structure or place, for the exercise of a trade, employment or business, or for the keeping or feeding of an animal which by occasioning noxious exhalations or noisome or offensive smells, becomes injurious to the health, comfort or property of individuals or of the public, or causes or suffers offal, filth or noisome substances to be collected or remain in any place to the damage of others or of the public or unlawfully obstructs or impedes the passage of a navigable river, harbor or collection of water, or corrupts or renders unwholesome or impure, a watercourse, stream or water, or unlawfully diverts such watercourse from its natural course or state to the injury or prejudice of others, shall be fined not more than $500."

Julius Rosenwald Fund.—The trustees of the Julius Rosenwald Fund, 4901 Ellis Avenue, Chicago, Illinois, at the annual meeting held in Chicago recently appropriated $284,000 for the work of the year beginning July 1, according to an announcement by Edwin R. Embree, president of the Fund. The appropriations were made for rural education, medical services, and negro welfare. . . .

It was announced that the Fund will continue its active interest in health insurance, pay clinics, public health, and other organized services which will make good medical care more available to people of small incomes. "Most striking among recent developments," said Dr. Michael M. Davis, director of the Fund's medical division, "is the growth of plans initiated by physicians, hospitals, or lay bodies, designed to improve the quality or reduce the costs of medical care, or to make it easier for the average family to pay for it. To the office of this Fund alone there has recently come knowledge of 344 plans and projects in all parts of the country. Among these are projects for budgeting hospital bills at a cost of from $5 to $10 a year, which have been set under way in over forty cities during the last two years, sponsored by the American Hospital Association and endorsed in principle by the American College of Surgeons and recently by the editor of *The Journal of the American Medical Association*. The general public receives and pays for medical care. Physicians, dentists, nurses, hospitals, and clinics furnish it. The public and the professions have a common interest in keeping up the quality of medical care and in working together on plans whereby the average family may get treatment without ruining its finances or asking for medical charity."

During the past year Doctor Davis served on the consulting staff of President Roosevelt's Committee on Economic Security, and Dr. C. Rufus Rorem of the Fund's staff served as consultant in group hospitalization to the American Hospital Association.

The chairman of the Board of Trustees of the Fund is Mr. Lessing J. Rosenwald; Mr. Edwin R. Embree is president. The other members of the Board of Trustees are: Dr. W. W. Alexander, Dr. John J. Coss, Robert M. Hutchins, Dr. Charles S. Johnson, Dr. Charles H. Judd, Leonard M. Rieser, William Rosenwald, Alfred K. Stern, and Frank Sulzberger.

New Inexpensive Treatment for Cancer — Caltech Laboratory Given Over to Study of Cheap Manufacture of Radon Gas.—Manufacture of radon gas for treatment of cancer and tumor, on a nonprofit basis, thus making this therapeutic agency available for persons of limited means, is to be undertaken at once under the direction of Dr. Clyde K. Emery, well known for his work here in radiology. Doctor Emery is associated with Dr. Seeley G. Mudd of the California Institute of Technology radiological laboratory, and also is in charge of radiation therapy at the Cedars of Lebanon Hospital, Los Angeles.

As director of the radium emanation, or radon plant, he will have in his charge 500 milligrams of radium. The radium, in solution, gives off a gas, radon. This, by a complicated system of purification and compression, is placed in small gold or glass tubes, known as "seeds."

These radon seeds have a life of but thirty-two days, after which they become inert. Radium itself will last hundreds of years. The gold tubes of radon are placed right in the growth of cancer or tumor and are left there permanently. The glass tubes, placed in platinum containers, are used as a substitute for radium itself and are recoverable.

Hitherto the cost of cancer treatment by radium has been high because only a few plants are established in the country, and the nearest of these are in San Francisco and Seattle. At the cancer clinic, associated with the Cedars of Lebanon Hospital, Los Angeles, according to Doctor Emery, it may be possible on the nonprofit basis of the new set-up to provide the radon seeds at a price low enough to include patients hitherto barred because of the expense.

It is hoped, states Doctor Emery, to supply doctors competent to use the treatment not only in Southern California, but in the adjacent territory of Arizona, New Mexico, and Nevada, thus considerably enlarging the area in which radiation therapy will be available.—*Pasadena Star-News,* June 13, 1935.

CORRESPONDENCE

Regarding contention of Doctor Pomeroy, Health Officer of Los Angeles County, concerning who had right to legally inoculate; with opinion of State Attorney-General thereon.

To the Editor: We enclose herewith copy of Opinion No. 10003, rendered us June 17, 1935, which we thought might be of interest to readers of California and Western Medicine.

Very truly yours,
C. B. Pinkham, M. D.,
Secretary-Treasurer, Board of Medical Examiners, State of California.

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San Francisco, Calif.,
June 19, 1935.

Yours of April 29, re preventive medicine.

J. L. Pomeroy, M. D.,
Los Angeles County Health Officer,
Hall of Justice,
Los Angeles, California.

Dear Doctor:

On receipt of your letter of April 29 we had some some correspondence on your interpretation of the Medical Practice Act. Thereafter we submitted your letter to the Attorney-General of this State.

Under date of June 17, 1935, we received Attorney-General's Opinion No. 10003. Therein he does not agree with your suggestion that the provisions of the Medical Practice Act are limited strictly to the sick, afflicted, injured, etc. He refers to Section 8 of the Medical Practice Act, which provides for the issuance of a certificate authorizing the holder thereof to use drugs or what are known as medicinal preparations in or upon human beings. He relates:

> "You will note that the authorization does not relate to sick or afflicted persons, but merely to human beings. Consequently, a well human being would come within this definition just as certainly as would a sick one. . . . Certainly the act of immunizing a person involves the prescribing for a physical or mental condition. . . . You are further advised that it is unnecessary for a physician and surgeon to be granted special dispensation by county health officers in order to legally inoculate against communicable diseases."

A copy of the opinion from which the above is quoted may be obtained from the office of the Attorney-General.

Because Allen F. Gillihan, M. D., Health Officer, San Luis Obispo, was exercised over your interpretation of the Medical Practice Act, as related in yours of April 29, we have sent to Doctor Gillihan a copy of this letter that he may be advised as to the opinion of the Attorney-General.

Very truly yours,
C. B. Pinkham, M. D.,
Secretary-Treasurer, Board of Medical Examiners, State of California.

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State of California
Legal Department

San Francisco,
June 17, 1935.

Charles B. Pinkham, M. D.,
Secretary-Treasurer,
Board of Medical Examiners,
San Francisco, California.

Dear Sir:

In your communication of the 6th ultimo you enclose a copy of a letter written you by J. L. Pomeroy, M. D., Health Officer of Los Angeles County, in which the letter suggests that a physician and surgeon, as such, has no right to vaccinate or immunize against disease.

You ask whether Doctor Pomeroy's interpretation is correct and whether physicians and surgeons duly licensed under the laws of this State must be granted special dispensation by county health officers in order *legally* to inoculate against communicable diseases.

In reply thereto permit me to state that it is the opinion of this office that there is no limitation of a physician and surgeon's license.

No person has an affirmative right to advise members of the public concerning the care or treatment of a well or sick person. The granting of a license, it has been held, is not a boon or privilege for the express benefit of the person receiving it, but is, rather, an evidence of the fact that the person to whom a license is given has studied the subject of medicine and surgery to such an extent as would indicate that he would do nothing detrimental to the health and well-being of the people.

Section 8 of the State Medical Practice Act provides for the issuance of "a certificate authorizing the holder thereof to use drugs or what are known as medical preparations in or upon human beings." Without such authorization a person would not have the right to use drugs or what are known as medical preparations in or upon human beings. You will note that the authorization does not relate to sick or afflicted persons, but to human beings. Consequently, a well human being would come within this definition, just as certainly as would a sick one.

Section 17 of the State Medical Practice Act prohibits an unlicensed person from prescribing for any mental or physical condition of any person. Certainly, the act of immunizing a person involves the prescribing for a physical or mental condition.

It has always been recognized in this State that the severing or penetration of any of the tissues of human beings is a surgical procedure, and it has been testified in many court cases that the act of penetrating the tissues of the human body with a needle would in fact constitute surgery.

However, it is well established that medical laws do not relate merely to the treating of the sick and afflicted. In the case of *Commonwealth* v. *Porn*, 196 Mass. 326, it was held that childbirth is not a disease, but a normal function of women, and that the practice of medicine does not relate exclusively to disease. The court notes that obstetrics, as a matter of common knowledge, has long been treated as a highly important branch of the science of medicine.

In *People* v. *Arendt*, 60 Ill. App. 89, it was held that a person practicing midwifery without complying with the provisions of the statute regulating the practice of medicine was liable to the statutory penalty.

In *State* v. *Welch*, 129 N. C. 579, 40 S. E. 120, it was held not to be erroneous to refuse to charge that the practice of obstetrics was not the practice of medicine.

Under the theory of the cases referred to, a woman undergoing childbirth is not suffering from a disease. Yet, if Doctor Pomeroy's interpretation of the law were correct, anyone might practice obstetrics because by so doing they would not be treating the sick or afflicted.

You are further advised that it is unnecessary for a physician and surgeon to be granted special dispensation by county health officers in order to legally inoculate against communicable diseases.

Very truly yours,

U. S. WEBB, *Attorney-General.*
By (Signed) LIONEL BROWNE, *Deputy.*

Regarding remarks of Dr. Rodney Yoell as printed on page 447 of the June, 1935, issue of California and Western Medicine: A letter from Frederick L. Hoffman, LL.D.

June 25, 1935.

To the Editor:—I have hurriedly prepared the enclosed letter, which you can print in the next issue of your journal. . . . I am well known in San Francisco and number among my friends, Dr. Geiger, Dr. Keenan, Dr. Kilgore, Dr. Lynch, and many others, who will bear witness to my veracity and integrity.

Very truly yours,

FREDERICK L. HOFFMAN.

Cancer Library: Cancer Research Fund.
University of Pennsylvania, Graduate School of Medicine, Medico-Chirurgical College.

* * *

To the Editor:—It is with considerable amazement that I have read the remarks concerning my articles on health insurance, published in CALIFORNIA AND WESTERN MEDICINE, and referred to in your issue of June, 1935. If Doctor Yoell had familiarized himself with the true state of facts, he could easily have ascertained that I have probably written as much as anyone in this country on the operation and results of health insurance in European countries, based on an extended study of documentary evidence and amplified by numerous visits to European capitals and interviews with responsible personages regarding the true state of affairs. I challenge Doctor Yoell to quote a single erroneous or misleading statement of facts in my articles or to point out any antiquated or obsolete data utilized therein. The articles were written entirely new on the basis of an examination of the evidence for England and Germany, furnished by the authorities and interpreted in the light of my many years of knowledge of both insurance and medicine.

I have never seen the Canadian report to which reference is made, but assuming that the quotations made therefrom are correct, they betray the same personal bias as the reflections by Doctor Yoell and are not deserving of serious consideration. The assertion that I represented the Christian Science Church is ridiculous, for I am neither a Christian Scientist nor even acquainted with the executive officials of that organization, for which, however, I have a most profound respect as regards the sincerity of its faith and the fine character of its adherents. The statement, therefore, that I represented the Christian Science Church is ridiculous, and a falsehood fabricated for the purpose of creating a bias against my conclusions. I have made a sworn affidavit to this effect to the Senate Committee of the State of California, repeating that in this matter of health insurance I represented only my own personal investigations, conclusions and convictions, and presented the results to the public in perfect good faith as a statement of fact and not of guesswork opinion.

I have said, and I repeat, that compulsory health insurance, in my judgment, has not contributed materially toward an improvement in the health of the British people, which has been advanced by an admirable public health administration, but not by health insurance concerned chiefly with trivial complaints as pointed out by their own statistics, and not dealing effectively with the chronic diseases of adult life, which should be the chief concern of health insurance and medical benefits. Our own mortality experience has been decidedly more favorable, and we have had a lower death rate year after year, regardless of the fact that we have no health insurance, than England and Wales, or Germany or other European countries. I continue to repeat that health insurance pauperizes the wage-earning population and at the same time impairs the integrity of medical practice. My views are in exact conformity with those of the American Medical Association which, in season and out, has expressed its opposition to the enactment of compulsory health insurance legislation.

Such are the facts which cannot be gainsaid by any superficial aspersions on my character and professional integrity. For forty years I have written on medical subjects and not a single essential conclusion of mine has ever been contradicted. To charge me with ignorance in this matter of health insurance is as ridiculous as it is insulting, since I have contributed as much as anyone to the literature on the subject during the last thirty years. I stand by every line I have written as representing nothing but the truth as it requires to be known and understood by the American people to safeguard our wage-earners against the impositions of a tremendous bureaucratic organization established chiefly for the benefit of those who, on the one hand, desire lucrative positions, and on the other, by those who do not hesitate to impose upon the benefits and draw wrongful advantages from its generosity.

I conclude these remarks with a letter reprinted from the supplement to the British medical journal of June 15, 1935, which is self-explanatory.

"The careful and temperate letter of Dr. S. Crown in the Supplement of June 8th expresses well the feeling of a growing body of panel practitioners—that their position is one of a progressively lowering status. The regulations are so heavily loaded against us, the regulations are so many and so involved, that very few can appreciate the appalling risks that we run, even when a practitioner attempts to work the regulations with the best will in the world.

"It comes as a great shock when some insured person enters a grievance against a panel practitioner and, as a result, his (the practitioner's) conduct is investigated by a medical service subcommittee. The barely veiled hostility of this committee and the roving inquiry into matters that hardly bear on the grievance savor of Star Chamber tactics, and anyone who escapes with only a censure is indeed lucky; while the insured person may break almost all the regulations that govern his conduct with complete immunity.

"Let no one think that he will be protected by the medical members of the committee. I greatly fear that not a few of these medical members are tired of panel work and are seeking a post as medical inspector, so that for them it is not policy to be too assertive in defending their colleagues against unjust and iniquitous investigations. I am, etc.,

F. A. Beattie.

London, S. E. 12, June 9.

Sir:—As a practitioner of some fifteen years' panel service, I wish to endorse most heartily the letter of Dr. S. Crown in your issue of June 8. I am, etc.,

W. A. Trumper.

Ivybridge, Devon, June 9."

Very truly yours,

FREDERICK L. HOFFMAN.

Philadelphia, June 25, 1935.

Letters of appreciation from annual session Guest Speakers.

May 29, 1935.

To the Secretary:—Many thanks for your letter of May 14. . . .

I very greatly enjoyed my visit to California and appreciated very highly the hospitality and cordiality of the officers of the Association and of as many of the members as I was fortunate enough to meet. It is a great organization, and the meetings were most interesting.

With many thanks for your courtesy and with kindest regards, I am

Very truly yours,
Thomas P. Sprunt.

May 24, 1935.

To the Secretary:—That was a dandy meeting at Yosemite, and I enjoyed it thoroughly. You were mighty good to me and I appreciate it deeply. . . .

Yours faithfully,
James S. McLester.

930 South Twentieth Street,
Birmingham.

May 24, 1935.

To the Secretary:—I wish to express to you and the officers of the Association my real appreciation of your hospitality and constant interest in my visit. From every point of view it was most enjoyable, and I wish to thank you for your own personal efforts.

Cordially yours,
George H. Whipple.

The University of Rochester School
of Medicine and Dentistry.

A.M.A. AND COMPULSORY HEALTH INSURANCE*

OUR REBEL WEST†

California Continues Fight for Compulsory Health Insurance

California's legislature has grounded the strongest compulsory health insurance bill in America. Its chances today are slim.

It is opposed by most of its original sponsors, the men who gathered the facts on which it stands. The press has turned against it. And the American Medical Association, conservative to the core, remains in diametric opposition. Its fate is unknown, just as the fate of most legislative measures based on so-called fact-finding surveys is ever a gamble, subject to political whim.

Errors of omission are mostly at fault. Original proponents and careful observers fail to find:

1. Provision regarding amount or method of payment to doctors.
2. Provision for illness benefits to the sick.
3. Definite assurance that beneficiaries will receive the benefits for which they have paid.

For these and other reasons it is not surprising that Professor Paul A. Dodd of the University of California at Los Angeles, who directed the fact-finding survey which led to the bill, stands against the bill in its present form. Allied with him are many members of the California Medical Association, legislators, and former proponents of the press, specifically Chester H. Rowell of the San Francisco *Chronicle*.

But the principle of mandatory health insurance inherent in the bill still appears sound to the majority in the California Medical Association. Rebels they may be, but they declare themselves prepared to confront the American Medical Association's House of Delegates with facts to prove their point.

Advocates of compulsion point to Professor Dodd's survey. They reason that "the economics of the present system of receiving and giving medical service is unsatisfactory both to the public and the profession. Neither receives what justly and rightfully belongs to it. The public is poorly protected. The profession is poorly paid."

Dodd's conclusions are based on work begun in August, 1934, under the aegis of a Committee of Five of the California Medical Association. The five were: Doctors William R. Molony, chairman, Los Angeles; Harry H. Wilson, secretary, Los Angeles; Alson R. Kilgore, San Francisco; Robert A. Peers, Colfax; and Rodney A. Yoell, San Francisco. The preliminary report appeared January 16, 1935. A supplementary report appeared in February. And the final report, although not yet issued, is to be made available shortly. . . .

Objectors claim that the bill will cost California $120,000,000 annually, help less than 40 per cent of the people. Many physicians fear the power of the commission, seeing politicians all-powerful in the realm of medicine.

The California bill is acceptable to no one. Unless it is amended substantially its influence on the country will be negligible.

* * *

California Medical Society Is Penalized for Health Insurance Activity*

Dr. James Tate Mason of Seattle, Washington, was named president-elect of the American Medical Association at the annual meeting in Atlantic City and he will assume office at the 1936 convention, which the delegates decided would be at Kansas City, Missouri.

Dr. Kennedy M. Lynch of Charleston, South Carolina, was named vice-president; Dr. Olin West of Chicago was reëlected secretary and Dr. Herman L. Kretschmeier of Chicago was reëlected treasurer. Trustees named were Dr. Ralph A. Fenton of Portland, Oregon, and Dr. James A. Bloss of Huntington, West Virginia.

The parent body administered a sound spanking to one of its wayward sons, the California Medical Association, and took away a choice plum by removing Dr. F. C. Warnshuis of San Francisco as speaker of the House of Delegates.

Doctor Warnshuis has held the office since 1922 and was admittedly one of the most capable and successful presiding officers ever to hold the chair.

He has been secretary-treasurer of the California association for a year, and is considered one of the ablest administrators in the medical profession. In commenting on the chastisement visited upon the California body, an Associated Press dispatch, printed June 14, said:

"In this way the House of Delegates, governing body of American medicine, reiterated its stand opposing all efforts to provide sickness insurance by the states or the Federal Government and censured the first of its component state organizations which has expressed favor of the idea.

"At the same time it declared continuing opposition to legislation of that type, particularly as embodied in the proposed social security bill proposed by President Roosevelt.

"'A single universal or master plan cannot possibly be devised to meet all the varying conditions throughout the United States, or even different sections of individual states,' the delegates declared.

"'As a substitute they proposed the continuance and amplification of the community sickness insurance plan adapted to the needs of a local area by supervision of the county or local medical societies.

"'The profession needs and will always welcome the coöperation and advice of all elements affected in health problems, but just as the individual physician must constantly assume the tremendous responsibility of decisions that involve life and death with individual patients, so the profession as a whole must assume the leadership and responsibility in the organization of medical service in the community,' they added."

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* See also page 90.

† From the June issue of *Medical Economics.*

* From the June issue of *Clearance,* published by the California Tuberculosis Association.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 7, July 1910

From Some Editorial Notes:

Candor with Tuberculosis Patients.—The great strides in prophylactic medicine that have been made during the last fifty years have been brought about largely in two ways: primarily, by the enormous amount of research that has revealed many of the etiological factors of disease, and secondarily, by measures tending to educate the public both in avoiding exposure and in combating diseased processes. . . .

* * *

Medical Defense.—The *Journal* has repeatedly printed notices about the medical defense plan of the State Society, but still there are many who do not seem to understand it entirely. . . .

* * *

American Medical Association Meeting in Los Angeles. As the *Journal* goes to press, word has been received that the meeting of the American Medical Association will be held next year in Los Angeles. The last time that this Association met in California was in San Francisco in 1894, when Dr. Beverly Cole of San Francisco was elected president. In thus recognizing the Pacific Coast profession, an added impetus will be given to medicine in this section of the country, which has in many particulars already been conspicuous by its enterprise and progress. Dr. H. Bert Ellis of Los Angeles was made chairman of the Committee on Arrangements.

From an article on "Differential Pressure" by Dudley Tait, San Francisco.

Differential pressure is to thoracic surgery what asepsis is to surgery of the abdomen. Bacteriology blazed the way for the latter; physiology made the former possible. Some may continue to procrastinate, mechanically trained surgeons may refuse to discard their crude procedures of Hippocratic origin; they can neither retard the triumphal advance of physiological methods into the domain of surgery of the chest nor attenuate in any sense the need, the importance and the far-reaching results of said invasion. . . .

From an article on "The Future of Heart Surgery" by Harry M. Sherman, M. D., San Francisco.

In 1798 Desault laid down the rules for opening the pericardium for an empyema situated in that sac, and in so doing opened a direct path to the heart. . . .

Reported cases of direct surgical intervention for the sake of the heart are up to the present time limited to traumatic conditions, but approaches to the heart are being made from other sides which, while they do not just yet include any distinctly surgical act upon the human heart itself, are surely opening the way for that supreme feat. . . .

From an article on "Clinical Features of Hypophysis Disease" by Herbert C. Moffitt, M. D., San Francisco.

In accepting the kind invitation of your faculty, it has seemed wise to review a field made fertile by the efforts of many different men, to choose a subject of interest as great to the physiologist and pathologist as to the surgeon, physician, or ophthalmologist. Facts

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* This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

(Continued in Front Advertising Section, Page 14)

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA*

By Charles B. Pinkham, M.D.
Secretary-Treasurer

News Items

"Conviction of Harry B. Knowles, Oakland, was upheld yesterday by the District Court of Appeals. Knowles was found guilty of second degree murder after Mrs. Neal Bondholt died of an illegal operation." (San Francisco *News*, June 7, 1935.) (Previous entry, December, 1934.)

"Dr. Walter Pike, Oakland physician, yesterday was found guilty of violating the State Narcotic Law by a jury in the court of Superior Judge Fred V. Wood. A jury at a previous trial disagreed." (San Francisco Chronicle, May 24, 1935.) (Previous entries, February, May, 1935.)

"Dr. F. W. Starr and Ray Leux, physician and druggist respectively, who were indicted a year ago by a Federal Grand Jury in a narcotic drive but were released on a technicality, faced a new charge this week after their arrest on a secret indictment by the jury. Both men are accused of violating the Harrison Narcotic Act and were released on bail." (Los Angeles *Highland Park News-Herald,* May 24, 1935.) (Previous entries, June, 1934; February, 1935.)

"Russell R. Craft, Marysville medical doctor, is accused of making false claims against the Government for treating war veterans in one group of twenty indictments returned here yesterday by the Federal Grand Jury. . . ." (Sacramento *Bee,* May 21, 1935.) (Previous entries, December, 1932.) Doctor Craft's medical license was revoked October 18, 1932, and revocation was sustained by the Appellate Court.

"A few minutes after the complaint against him had been signed, Facundo Bonal of San Bernardino, pleaded guilty yesterday to a charge of violation of the State Medical Practice Act and was sentenced to a term of 180 days in the county jail by Justice Russell A. Wickizer. Bonal already was serving a thirty-day sentence in the county jail for petty theft. . . ." (San Bernardino *Telegram,* May 17, 1935.) Records show his prior conviction at El Centro, September 23, 1933.

"Trial of Dr. Eric R. Wilson, prominent Hollywood physician, on charges of failing to pay his income tax for 1931, today was continued until next January by Federal Judge William P. James, to enable federal agents to effect a compromise, which had been offered by the physician. . . ." (Hollywood *Citizen News,* May 21, 1935.)

"Attorneys for the State and Dr. E. B. Hartman, chiropractor, who was accused of violating the State Medical Act, yesterday submitted stipulation of facts to Justice Russell A. Wickizer as the first step in the second trial of the practitioner. The stipulation . . . admits the doctor is a licensed chiropractor, but not a physician and surgeon. . . . It admits that on February 25, the day the violations are alleged to have occurred, he did have a hypodermic syringe and needle in his possession and had advertised and practiced a mode of treating the sick, namely, the Koch method of cancer treatment, which consists of injecting a fluid

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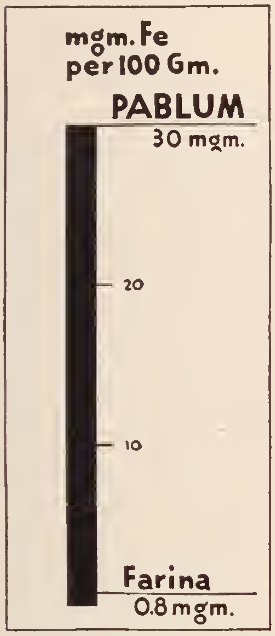
* The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6.

(Continued in Front Advertising Section, Page 15)

For bland diet therapy, especially ULCER cases — PABLUM

FAR too often the bland diet prescribed for gastric ulcer, colitis, and similar gastro-intestinal disorders is a deficient diet. An analysis made by Troutt of ulcer diets used by 6 leading hospitals in different sections of the country showed them to be "well below the Sherman standard of 15 milligrams" in iron and low in the water-soluble vitamins.[1] "Vitamin B would appear to be represented at a maintenance level in most cases," writes Troutt, "but the possible relation of vitamin B to gastro-intestinal functions and appetite should make one pause before accepting a low standard."



Although Pablum has a low fiber content it is 37 times richer than farina in iron and in calcium, 4 times richer in phosphorus, and 4½ times richer in copper.

Low in Fiber — High in Iron

Pablum is the only food rich in a wide variety of the accessory food factors that can be fed over long periods of time without danger of gastro-intestinal irritation. Its fiber content is only 0.9%. Yet Pablum contains 37 times more iron than farina and is an excellent source (+ + +) of vitamins B and G, in which farina is deficient. Supplying 8½ mgms. iron per ounce, Pablum is 8 times richer than spinach in iron. It must be remembered, too, that even when such vegetables as spinach are included in the ulcer diet, their iron content is reduced by sieving. Peterson and Elvehjem found, for instance, that orange juice and tomato juice contain only one-third as much iron as the whole fruit.[2]

Rich in Vitamin B

The high vitamin B content of Pablum assumes new importance in light of recent laboratory studies showing that avitaminosis B predisposes to certain gastro-intestinal disorders. Apropos of this, Cowgill says, "Gastric ulcer is another disorder which can conceivably be related to vitamin B deficiency. Insofar as the treatment of this condition usually involves a marked restriction of diet the occurrence of at least a moderate shortage of this vitamin is by no means unlikely. Obviously the length of the period of dietary restriction is an important determining factor. Dalldorf and Kellogg (1931) observed in rats subsisting on carefully controlled diets that the incidence of gastric ulcer was greatly increased in vitamin B deficiency. Observations of this type merit serious consideration."[3] Sure and Thatcher (1933) produced ulcers in rats, similar to those in human gastric ulcer, as a result of specific vitamin B deficiency.[4] Clinical observations by Dickson,[5] Elsom,[6] Larimore,[7] and Mackie[8] lead them to believe that diets low in vitamin B may be conducive to gastro-intestinal disorders, including ulcerative colitis.

Requiring no further cooking, Pablum is especially valuable during the healing stage of ulcer when the patient is back at work but still requires frequent meals. Pablum can be prepared quickly and conveniently at the office or shop simply by adding milk or cream and salt and sugar to taste. Pablum has the added advantage that it can be prepared in many varied ways—in muffins, mush, puddings, junket, etc. Further, Pablum is so thoroughly cooked that its cereal-starch has been shown to be more quickly digested *in vitro* than that of farina, oatmeal, cornmeal, or whole wheat cooked four hours in a double boiler (Ross and Burrill).

Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa, yeast, beef bone, iron salt and sodium chloride.

1-8 Bibliography on request.

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The Number of Physicians.—According to the sanitary bureau of the home office, the number of medical men in 1934 in Japan was 52,792, while in 1933 it was 50,069. The increase is 2,723 over 1933, but when compared with 1932 the increase is 4,692. Thus there will be a flood of physicians in the near future, if it is not controlled. There are 7.71 practitioners to each 10,000 of population on an average: in cities there are 13.24, and in villages there are 4.78. The number of dentists is 17,984, while in the previous year it was 17,164, the increase being 840. There are 56,590 midwives, of whom there were 54,655 in the previous year. The number of pharmacists is 21,807, which shows an increase of 1,332 compared with 1933. The number of nurses is 96,020, whide there were 89,686 in 1933. These figures are for the close of the year 1934.—News Letter, *Journal of the American Medical Association.*

New Mold Makes Sarcolactic Acid.—Another mold has been harnessed and put to work by chemists in the United States Department of Agriculture. This one is a species of Rhizopus and a relative of the common bread mold. When properly fed and cared for, this Rhizopus produces sarcolactic acid, a component part of ordinary lactic acid, the acid found in sour milk. Work which led to the discovery of this mold was described before the American Chemical Society in New York in a paper by G. E. Ward, L. B. Lockwood, O. E. May, and H. T. Herrick, of the Bureau of Chemistry and Soils.

Sarcolactic acid derives its name from the fact that it was originally prepared in 1808 from animal flesh, which is still one of the principal sources. It is found in small quantities in the human body, and plays an important part in human metabolism—the process by which the body converts food into fuel and energy. Because of limited sources heretofore available, sarco-

(Continued on Page 36)

The Treatment of EARLY SYPHILIS

THE TREATMENT of early syphilis advocated today involves such basic principles as the use of an arsphenamine as the foundation of the treatment, the use of a heavy metal as an adjuvant (preferably bismuth intramuscularly), and the continuation of treatment without a rest period for a period of one year after all symptoms and signs of the disease have disappeared.

These fundamentals have evolved from a painstaking study, by a group of university clinics in collaboration with the U. S. Public Health Service, of records covering a fifteen year period. Their report may be considered as the most authentic information available today relative to the satisfactory treatment of early syphilis. The method of treatment advocated is known as: —

- *"The Continuous Method of Treatment"*

This method, with the use of Neo-arsphenamine Merck, may be relied upon to produce satisfactory results.

0.6 Gram
NEO-ARSPHENAMINE
NOVARSENOBENZOL BILLON
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EXPERT FITTERS IN ATTENDANCE

(Continued from Page 34)

lactic acid has been very hard to get in quantity in pure form, and difficulties encountered in its preparation have held the price near a dollar a gram. With the new molds at work indications are that this price can be materially cut, thus making pure sarcolactic acid generally obtainable for physiological and industrial investigations.

Heretofore the only lactic acid produced industrially has been the inactive form, which is manufactured by the bacterial fermentation of starch. The sarcolactic acid which has been made in the laboratory up to the present time has usually contained impurities. The new process now being developed in the department gives relatively high yields of a pure product.

Discovery of the mold that makes sarcolactic acid is an outgrowth of a study, begun in 1926, of the application of molds to the utilization of farm products. Other molds have been found for making gluconic and kojic acids.

Federal Prosecutions for Frauds Continue.—The Press Service of the Office of Information of the United States Department of Agriculture releases the following information: Five prosecutions against shippers of adulterated and misbranded salad oils were terminated in April, the Food and Drug Administration was advised. The adulterated oils had been examined by federal inspectors during the recent campaign against the fraudulent practices of certain operators, and were seized at points in New Jersey and Pennsylvania. . . .

A combined action brought under the Federal Insecticide Act and the Federal Food and Drugs Act resulted in the assessment of a $300 penalty against J. F. DeVine Laboratories, Goshen, New York, manufacturers of preparations for veterinary diseases and parasites. Their "Mange Relief," tested by the Government, was found to be ineffective against all varieties of mange, while their "Dermatone," also recommended for mange, was so injurious that it killed the test animal. Both ineffectiveness and harmfulness under the conditions of use render such products in violation of the Insecticide Act of 1910, says the Food and Drug Administration. . . .

Hart M. Allen Laboratories, Los Angeles, shippers of "Allen's Rheumatic Treatment" were fined $600 in Federal court at Los Angeles. The information as filed alleged that this firm had shipped their product to Reno, Nevada, under a label carrying claims of benefit in rheumatism, neuritis, sciatica, lumbago, gout, toothache, earache, migraine, pains of locomotor ataxia, fever, and women's ailments. The "treatment," consisting of approximately five grains of acetanilid per tablet, with small amounts of baking soda and caffein, was essentially an analgesic, and would have no effect upon the course of the ailments listed. The claims were, therefore, held to be false and fraudulent and in violation of the law.

The campaign against tomato products containing mold and insect particles was pushed during April, the Food and Drug Administration reports. It resulted in the seizure of thirty consignments of miscellaneous tomato products as catsup, sauce, paste and puree. One lot of catsup was also short volume, and one of paste insufficiently concentrated to be sold under that designation. Four lots of domestic tomato paste and sauce labeled so as to give the impression of foreign origin were also confiscated.

CALSO WATER

Palatable ALKALINE *Sparkling*

NOT A LAXATIVE

Calso Water: An efficient method of supplying the normal ALKALINE SALTS for counteracting ACIDOSIS.

Calso Water: Made of distilled water and the ALKALINE SALTS (C. P.) normally present in the healthy body.

Calso Water: Counteracts and prevents ACIDOSIS, maintains the ALKALINE RESERVE.

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526 CALIFORNIA STREET, SAN FRANCISCO, CALIFORNIA

■

June 29, 1935

ASSETS $169,421,331.28 DEPOSITS $154,803,474.97

Capital Paid up	$6,000,000.00
Surplus	$4,000,000.00
Reserves and Undivided Profits	$4,157,383.06
TOTAL CAPITAL ACCOUNT	$14,157,383.06

■

MISSION BRANCH, Mission and Twenty-First Streets
PARK-PRESIDIO BRANCH, Clement Street and Seventh Avenue
HAIGHT STREET BRANCH, Haight and Belvedere Streets
WEST PORTAL BRANCH, West Portal Avenue and Ulloa Street

The sporadic occurrence of lead and arsenic in foods entering interstate commerce requires constant vigilance, say law-enforcement officials. During April, lead in amounts dangerous to health was found in tea, 60,000 pounds being seized; in jams and jellies, of which 1,000 cases were seized; and on fresh apples, as a residue from insecticidal sprays, with 380 bushels seized. Eleven hundred sacks of dried apple chops adulterated with both lead and arsenic were also confiscated.

Other foods seized during the month were the following: substandard canned apricots, canned "pitted cherries" containing excessive pits, short weight packaged olives, low-fat butter, and lemon extract prepared with isopropyl alcohol instead of grain alcohol.

Among drugs, the Food and Drug Administration reports the seizure of five cylinders of nitrous oxid, a gas used for anesthesia, for failure to meet the official standard of purity. A shipment of "aconite and bryonia compound tablets" was seized because it did not conform to its own stated strength, being in fact practically inert medicinally.

The following "patent" medicines were seized during April because of the false and fraudulent medicinal claims indicated: "A-I-R" (Asthma Instant Relief) for asthma, croup, bronchitis, and hay fever; "Baker's Cough Syrup" for coughs, hoarseness, influenza, bronchitis, croup, whooping cough, and inflammations of the throat and lungs; "Blanton's Rheumatic Salve" for rheumatism, coughs, pneumonia, sore joints, swollen muscles, and catarrh; "Chalgonia Tablets" for insomnia and sciatica; "Fowlerine" for kidney trouble, rheumatism, and nervousness; "Dr. Griggs Great Blood Tonic" for diseases of the blood, nervous system, liver, kidneys, bladder, stomach and heart, and women's ailments; "Hale Phosphate of Soda" for stomach and liver derangements and rheumatism; "Hart's Swedish Asthma and Hay Fever Medicine" for asthma and hay fever; an ichthyol ointment for eczema and carbuncles; "J. H. Mims Iron Tonic" for purifying the blood and for indigestion, pellagra, dropsy, eczema, and rheumatism; "Mother's Salve" for croup, catarrh, piles, sores, and skin diseases; "Nurse Brand Blood Purifier" for skin affections

(Continued on Page 39)

OLD
NEW
M 466
Rabies Vaccine (Mulford)
1 Dose
Phenol killed
FOR HUMAN USE
M 472
Rabies Vaccine (Mulford)
1 Dose
Phenol killed

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Tumor Pathology
A. H. WARNER, Ph.D.,
Physicist

(Continued from Page 37)

and sluggish liver; "Requa's Charcoal Tablets" for all stomach troubles, rheumatism, constipation, liver trouble and malaria; "Revigoro Tonic Health Tea" for the restoration of organ, gland and tissue, and for weight reduction; "Roo-Mo-Rub" for rheumatism, sciatica, lumbago, and scarlet, typhoid, and other fevers; "Thymol Powder" for female disorders; and "Vin Vigorans," a nerve and blood tonic.

Childhood Habits Rule. — Whether a child is the scion of a long line of colonels or whether he is the offspring of generations of shoemakers makes no difference in his physical set-up, Miriam T. Sweeney so states in discussing whether or not physical characteristics are heritable. The child can be a Titan of strength if at the earliest possible moment he is started in the right way toward body building. . . . Such a program entails the right kind and amount of work, rest, play, sleep, food, sunshine, and air.

A child is likely to have brown eyes if they are a characteristic of his forbears; and he will very likely have other resemblances. In adhering to the general type of paternal or maternal ancestors the child will be long or short in skeletal framework.

Parental judgment must be enforced so that the child may be prepared, step by step, to have an adequate set-up physically when he does stand upright.

The key to the world of the future and to the wise fraternity of all races lies in the liberation of the child from the bondage of others' error and sin; from disease and debility, from desertion and want, from ignorance and passion above all, that are visited on the helpless to the third and fourth generation. The heart of a child is friendly to all; like the baby of Della Robbia, its limbs are bound, but its arms go out to its fellows. Its single claim is to be allowed to love; its one revenge to die if, for an hour, we neglect it.—Romain Rolland.

Fill mine too

—an invitation that began with her child, but at her doctor's suggestion

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3. Patients have the advantage of modern laboratory aids to diagnosis and of all modern therapeutic agencies.

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5. Colfax is accessible. It is on the main line of the Ogden Route of the Southern Pacific R. R. and has excellent train service. It can be reached by paved highway, being on the Victory Highway, with paved roads all the way to Colfax.

For further information address

ROBERT A. PEERS, M. D., *Medical Director*
Colfax, California

●

VITAMIN STABILITY DURING CANNING

● For over twenty years, intensive studies have been made of the stabilities of the vitamins under various conditions and treatments. Data accumulated indicate that certain vitamins contained in foods may, under specific conditions, be sensitive to oxygen in the presence of heat, or to heat or oxygen alone (1).

Broad details concerning vitamin stabilities are now general knowledge. The basic principle of commercial canning, namely heat sterilization of foods in sealed containers, is also generally known. As a consequence, there has been a tendency in some quarters to regard canned foods as deficient in certain, if not all, vitamins originally present in the raw material because of the conditions to which they were subjected during the canning procedures. Such a concept is not consistent with the established facts.

In future issues it is our intention to review the vitamin values of specific canned foods, as well as other nutritional virtues which they may possess. At this time we should like briefly to survey the matter of the stability of the most widely distributed vitamins during the canning procedure:

In general, vitamin A is not affected by commercial canning. This also appears true of vitamin G, as judged by present bio-assay methods for this complex dietary factor.

The stability of vitamin B_1 is dependent not only upon the heat treatment accorded it, but also upon the natural acidity of the food in which it is contained. In the more acid foods there is practically no loss of the vitamin during canning; in the less acid foods, which require longer and higher sterilization times and temperatures, the degree of retention is not as high.

Vitamin C is the most labile of all the vitamins; it is especially subject to destruction by open pan methods of cooking which permit free contact with atmospheric oxygen. In canning, however, the food is protected to a greater degree from contact with oxygen in the presence of heat; consequently the antiscorbutic factor is well retained in commercially canned foods.

Protective measures employed in commercial canning combine to insure that vitamins are retained in high degree. Such measures include the use of selected raw materials at the optimum state of maturity; prompt handling of the harvested crop; rapid inactivation of enzymes; removal of respiratory oxygen; and exclusion of air to a maximum extent during canning.

A fuller discussion of vitamin stabilities during canning procedures is not possible here. For further reading a recent publication dealing more in detail with this important subject is recommended (2).

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) The Vitamins, Sherman and Smith, The Chemical Catalog Co., New York, 1931.
The Vitamins; Browning, Bailliere, Tindall and Cox, London, 1931.
Vitamins, A Survey of Present Knowledge, Medical Research Council, H. M. Stationery Office, London, 1932.

(2) Ind. Eng. Chem. 24, 650 (1932)

I am interested in having you publish in this journal the facts about the subjects checked.

☐ Nutritive Values of Canned Foods.

☐ Canned Foods in the Diet of Children.

☐ The Tin Container.

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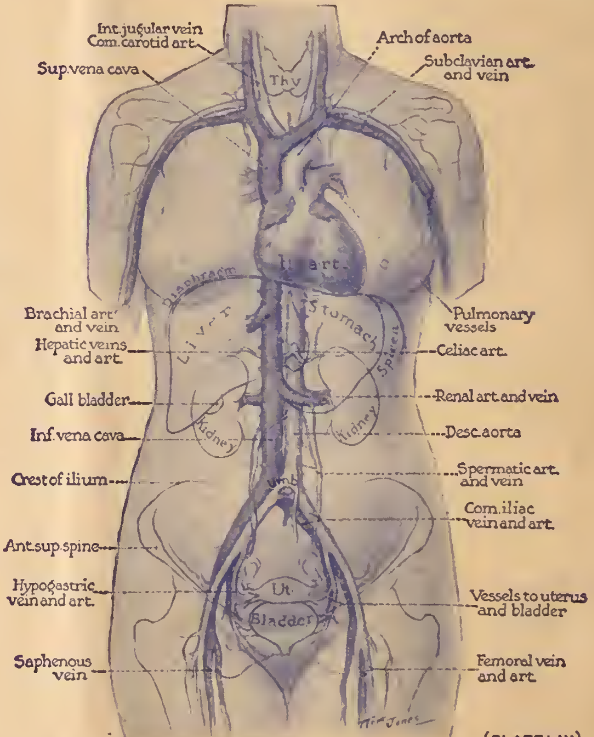
Int. jugular vein
Com. carotid art.
Sup. vena cava
Arch of aorta
Subclavian art. and vein
Thy
Heart
Diaphragm
Liver
Stomach
Spleen
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Pulmonary vessels
Hepatic veins and art.
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Gall bladder
Renal art. and vein
Kidney
Kidney
Inf. vena cava
Desc. aorta
Crest of ilium
Spermatic art. and vein
umb
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Bladder
Vessels to uterus and bladder
Saphenous vein
Femoral vein and art.
Tim Jones

(PLATE LIII)

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HEAT STERILIZATION—
A BASIC PRINCIPLE OF CANNING

● The Frenchman, Appert, is given credit for the first application of heat sterilization as a means of food preservation.

Competing for a prize of 12,000 francs offered by Napoleon for the most practical method of food preservation for blockaded France, Appert, in 1804, laid the foundations of the modern canning industry. So successful were his limited efforts that a contemporary food critic has stated that Appert's products recalled "the month of May in the heart of winter."

In the first English edition of his text (1) Appert propounds his conviction:

> "That the application of fire in a manner variously adapted to various substances, after having with the utmost care and as completely as possible, deprived them of all contact with the air, effects a perfect preservation of those same productions, with all their natural qualities."

Appert's findings were made empirically years before the true causes of food spoilage were known. Today, it is evident that the success of his procedure was due to heat destruction of spoilage micro-organisms, such as are associated with raw foods, and protection from subsequent contamination by such organisms.

The sterilization procedure, or the "process" as it is termed in the industry, is an integral part of commercial canning. Essentially, it involves the heat treatment of foods sealed in hermetic containers after proper preparation; the preparatory procedures accomplishing, among other things, the removal of most of the air from the can.

The time and temperature required for sterilization of a food are dependent upon many factors. The establishment of proper processes for canned foods is not a haphazard procedure; scientific methods constantly refined during the past two decades serve to determine the times and temperatures which must be used.

The findings of the physical chemist as to the rate of penetration of heat into the food are combined mathematically with data obtained by the bacteriologist on the thermal resistance of spoilage micro-organisms (2). From this calculation are determined the proper processes necessary to destroy spore-forming spoilage bacteria whose thermal resistance are much greater than those of the pathogens.

Selected raw material, proper preparation, and scientifically determined methods of heat sterilization have combined to insure that canned foods as a class are among the most wholesome foods coming to the American table (3).

AMERICAN CAN COMPANY

230 Park Avenue, New York City

1) The Art of Preserving, M. Appert, Black, Parry and Kingsbury, London, 1811.

(2) Thermal Process Time for Canned Foods, C. O. Ball. Natl. Res. Council Bulletin, v. 7 No. 37, 1923

(3) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century, N. Y. 5th Ed. 1927.

This is the third in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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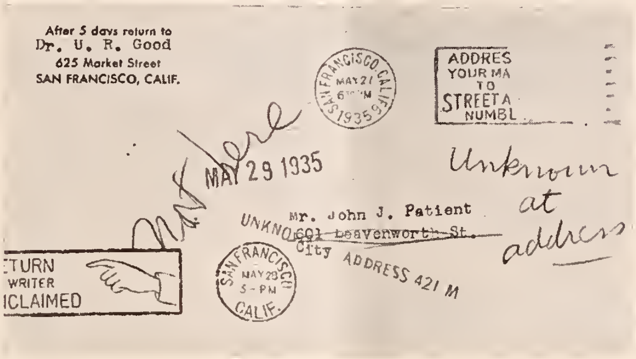
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California SERA Program.—The Division of Public Relations of the State Emergency Relief Administration, 49 Fourth Street, San Francisco, has issued the following bulletin:

California's share of the new four-billion-dollar works program will approximate $200,000,000 to be allocated from Washington in the next twelve months for the benefit of California industry and unemployed.

This was the prediction today of California's Works Progress Administrator, Frank Y. McLaughlin, upon his return from Washington conferences called by Harry L. Hopkins, Federal Chief of the Works Progress Administration for the new program.

A full day's work will be demanded in the new program, and there will be no place either in the program or on the relief rolls for those who refuse to work or are incompetent, McLaughlin reported.

These people will be ruled "unemployable," and either must find jobs for themselves or depend upon local charity for aid, in the new plan, he said.

Yardstick for allocating the federal works fund is the percentage of needy unemployed in each state, McLaughlin declared, and California contains approximately 5 per cent of the nation's unemployed on relief.

This same "rule of thumb"—the relief load—will govern allocations of funds in California, McLaughlin said, and the various localities may expect allotments, depending upon their percentage of needy unemployed on relief during May.

Under the new program San Francisco and the Bay area will comprise one complete district, and Los Angeles County another. No district directors have yet been appointed.

Is Aluminum Poisonous?—The wide distribution of scare literature, suggesting that the use of aluminum utensils is likely to prove injurious, has been brought to our attention. We were under the impression that the question of toxicity in foods because of their preparation in aluminum vessels had long been settled. Some of the false statements are: Aluminum is destructive of life; aluminum is not a normal constituent of living tissue; aluminum is a rare and poisonous metal; aluminum utensils are rapidly dissolved by foodstuffs during cooking; aluminum in the diet causes sterility; the use of aluminum utensils is provocation of cancer; traces of aluminum produce what is commonly known as ptomaine or food poisoning; aluminum is a narcotic acid poison; cooking in aluminum destroys nutritive and health protective constituents of foodstuffs; and so forth. Most of these statements are based upon ignorance, since there is no evidence to support the contention that aluminum is poisonous or causes disease. There is no scientific evidence to show that aluminum in the ordinary cooking operations of everyday practice is so strongly attacked as to produce an objectionable amount of soluble salts. The United States Bureau of Standards Circular 346 (1927) states: "There is no evidence available which would indicate that aluminum cooking utensils represent a potential danger to health."

After an exhaustive nutritional and chemical study on the use of aluminum utensils in cooking, the German Ministry of Health published the following statement: "Damages of any kind to health or even disturbances of well-being did not make themselves evident." Another German scientific journal states: "The use of aluminum for plant and vessels in the food industry is eminently suitable. The quantities of aluminum which are dissolved are physiologically perfectly harmless."

Aluminum is a natural constituent of ordinary water and of most foods, though present only in traces. A quart of milk, for example, contains one-twelfth of a grain of aluminum, and a loaf of bread about one-sixth of a grain. Lettuce contains 29.6 parts of aluminum per million parts, beef 13.9, and fried eggs 12.4. It is obvious that, regardless of the type of vessel in which food is cooked, we are all ingesting some aluminum from our diet, in common with iron, calcium, and other salts, and it is reasonable to conclude that it plays some rôle in human nutrition and metabolism.

The British *Lancet* of May, 1931, made the following statement in regard to cancer: "There is no reliable evidence, experimental, statistical, or clinical, which would indicate a casual correlation between cancer and the absence or presence, or the excess of any dietary constituent. Sensational statements to the contrary are unfounded and ill considered and only serve to alarm the public."

Experiments by competent scientists have demonstrated conclusively that aluminum does not affect the vitamins in foods.

In the United States the amount of aluminum in the organs of man varies with the locality, depending on diet, water supply, and soil content. The amount increases with advancing age, but there is no correlation between the aluminum and the hardening of the arteries. Practically all scientific men agree that there is no more likelihood of producing organic diseases or food poisoning by the use of aluminum vessels than by those of any other sort.—*Oregon State Board of Health Bulletin.*

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BOOK REVIEWS

List of Books Received

BOOKS RECEIVED

Objective and Experimental Psychiatry. By D. Ewen Cameron, M. B., Ch. B. (Glasgow), D. P. M. (London), Physician in Charge, Reception Service, Provincial Mental Hospital, Brandon, Manitoba; Formerly Assistant Physician, Glasgow Royal Mental Hospital; Assistant Resident Psychiatrist, Johns Hopkins Hospital, and Instructor in Psychiatry, Johns Hopkins University. Cloth. Pp. 271. Price, $3. New York: The Macmillan Company, 1935.

The Woman Asks the Doctor. By Emil Novak, M. D., F. A. C. S., Honorary D. Sc. (Dublin), Associate in Gynecology, Johns Hopkins Medical School; Former Vice-President, American Gynecological Society. Illustrated by Carl Clarke. Cloth. Pp. 189. Price, $1.50. Baltimore: The Williams & Wilkins Company, 1935.

A Textbook of Clinical Neurology. By Israel S. Wechsler, M. D., Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, Neurological Institute and the Montefiore Hospital, New York. Third Edition, Reset. Cloth. Pp. 826 with 162 illustrations. Price, $7 net. Philadelphia and London: W. B. Saunders Company, 1935.

A Textbook of Biochemistry. Edited by Benjamin Harrow, Ph. D., Associate Professor of Chemistry, the City College, College of the City of New York and Carl P. Sherwin, M. D., Sc. D., Dr. P. H., LL. D., Member of the Staff of St. Vincent's Hospital and French Hospital, New York City. Cloth. Pp. 797 with 52 illustrations. Price, $6 net. Philadelphia and London: W. B. Saunders Company, 1935.

The Doctor's Bill. By Hugh Cabot. With an introduction by A. Lawrence Lowell. Cloth. Pp. 313. Price $3. New York: Columbia University Press, 1935.

BOOK REVIEWS

Economic Problems of Medicine. By A. C. Christie. Cloth. Pp. 242. New York: The Macmillan Company, 1935. Price, $2.

Since he occupies a position of responsibility with respect to his patients, his fellow practitioners and his medical societies, and since he is a guardian of the public health, every physician, today, should familiarize himself by thorough study not alone with the current problems of medical economics but also, as far as possible, with the sources of those subversive propaganda—now so cleverly distributed throughout our nation—which are aimed at the very foundations of the practice of medicine.

In this connection, Doctor Christie states in his book that "The physician, to fulfill his duty, must maintain his leadership in everything pertaining to health"; that he is "in a better position to understand the economic problems of medical care than the economist without medical training"; that his problem is "to fit medical practice

(Continued on Next Page)

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RIESMAN: Story of Medicine in Middle Ages.... 5.00
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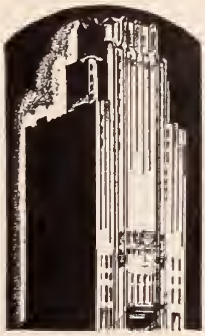

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BOOK REVIEWS

(Continued from Preceding Page)

into the society of the day without destroying professional ideals"; and he adds, "Any solution that will lower the quality of medical care is no solution."

Doctor Christie then discusses, among other subjects, ethics and economics, medical education, private practice, the hospital, medical organization and the relation of the physician to the community.

He also deals with the problems that concern, respectively, workmen's compensation and health insurance—both voluntary and compulsory. In Chapter XI he explains clearly the dangers and the evils of insurance plans. Finally, he discusses the essential elements in a comprehensive plan for medical care.

Each subject is presented in a delightfully lucid and succinct manner. Indeed, figuratively speaking, this book is a crystallization of sane, common sense ideas on current medical problems; it offers a firm foundation on which organized medicine can work. Since, therefore, as regards its practice, the stand physicians take today will determine the status of medicine in the future, it behooves every member of a medical society to have a copy of this book at hand for constant reference and study. E. J. B.

Tuberculosis—A Book for the Patient. By Fred G. Holmes. Pp. 312. New York: D. Appleton-Century, 1935. Price, $2.

Drawing on the experience he gained during fifteen years' work in the field of tuberculosis, in this book the author gives us, in a readable, facile style, a comprehensive explanation as regards the nature, the symptoms, the complications and the treatment of tuberculosis. Meant primarily for the patient and his family, this volume should be of value also to nurses and to other students of the disease.

The author describes at great length, and in detail, the various forms of collapse therapy now so frequently employed. Oleothorax seems to be the only one omitted, probably because it was introduced but recently, and its true evaluation has not been satisfactorily proven. The physician, however, should hesitate to recommend the book to a patient who is readily upset on reading of the dangers and complications likely to attend a surgical procedure he is about to undergo. The chapter on the diet and the food values is especially well done.

As Potts so aptly says: "Whether the patient goes to a sanatorium or not, he will find it profitable to buy a half-dozen layman's books on tuberculosis." This may well be one of them. It should not only serve as a valuable reference book for the patient, but should also give him courage and inspiration, as he realizes that the author, an eminent authority in his chosen work, is himself a valiant fighter of the disease. S. D. P.

Diabetic Manual for Patients. By Henry J. John. 2nd ed. The C. V. Mosby Company, 1934.

Although it is intended primarily for the patient, this manual sets forth information that is useful not alone to the physician, but also to the sick person's family, his nurse and the dietitian. To the patient himself this little book brings home the fact that diabetes is a dangerous malady, but at the same time it gives him great encouragement; for it assures him that if he cares for himself in the prescribed manner, and adheres to the rules of treatment, he may then expect to enjoy a long life.

The manual is simply written; and the directions it gives on technical points are complete, specific and practical. As to its contents, a few words will suffice. Undoubtedly the information available in the section on food equivalents and substitutes should be helpful toward the solution of the ever present diet problem; and the average lay person afflicted with diabetes is likely to appreciate the rational explanation he will find in this book as regards the pathology of that disease; still another real boon to the patient is the author's presentation of data which show the striking contrast to be observed between the end results achieved, respectively, with the undernutrition treatment and with insulin.

However, to touch upon another point, in view of the present economic situation, one doubts whether it would be practicable to establish summer camps for diabetic children. W. A. R.

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TWENTY-FIVE YEARS AGO

(Continued from Text Page 176)

From an article on "The Essentials of Surgical Diagnosis with Reference to Fractures" by T. W. Huntington, M. D., San Francisco.

It is obvious that end-results associated with fracture treatment give quite too large a percentage of faults, deformities, and impaired function. Such conditions take a wide range between moderate shortening, slight angularity and alteration of axial relations; to non-union, positive limp, persistent pain and joint ankylosis of varying extent. . . .

From an article on "Epidemic Meningitis in California and Its Treatment with Flexner's Anti-Meningitis Serum" by Philip King Brown, M. D., San Francisco.

Little is known of the history of epidemic meningitis before the beginning of the last century. It is regarded generally as a disease that this country is responsible for as epidemics of it were described early in the nineteenth century along the Atlantic seaboard, before it was noted in Europe. It has probably existed endemically in this country ever since, breaking out in epidemics, in widely scattered localities and without traceable cause, at distant periods of time. In its epidemic form it varies in severity from an exceedingly mild trouble unattended by complications, to an acute disorder, beginning with a chill and lasting very few hours before termination by death. . . .

From an article on "Pain as a Symptom in Secondary Syphilis" by Edward W. Twitchell, M. D., Sacramento.

One cannot help being struck by the obtuseness of the general public in the matter of the observation of what, to us, are clamorous symptoms. Proof of this

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are the numerous cases of tertiary or metasyphilis, whose primary or secondary manifestations have entirely escaped the patient. Within the last few years I have happened to see several syphilitics who were roused from their indifference by the single symptom of pain, totally ignoring the symptoms which had preceded it. . . .

From an article on "Medical Ethics in San Francisco" by W. S. Thorne, M. D., San Francisco.

The following article is a reprint, the original appearing seventeen years ago. In view of the fact that the subject is one to which attention is constantly drawn by real or fancied transgression of ethical conduct, I venture to hope that the suggestions may not be inappropriate to the present day:

"In California, isolated from the older and more stable societies, the medical profession is characterized by an absence of *l'esprit de corps* that we observe elsewhere. The explanation of the fact is to be found in the heterogeneous elements comprising the body of the medical profession. . . . No man can rise, or has ever risen to an exalted height in medicine, who has not carried with him the love and respect of his contemporaries."

BOARD OF MEDICAL EXAMINERS

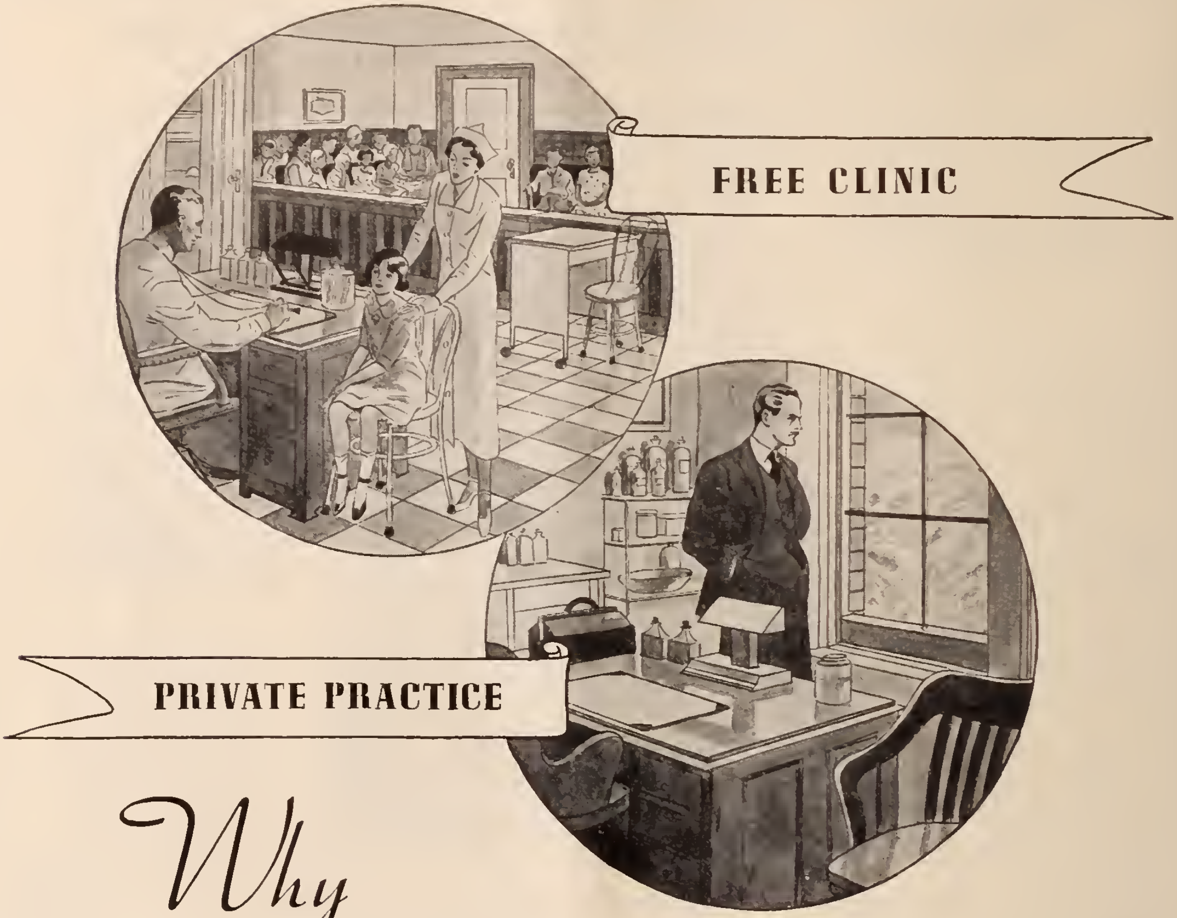
(Continued from Text Page 176)

such licentiate's name, it must be 'Chiropractor,' or the like. A person's name, followed by the statement 'Licensed to practice chiropractic in the State of California' would be sufficient."

"Sixteen of the twenty-one broadcasting stations cited recently to show on October 3 why their licenses should not be revoked for carrying a program for an alleged fat-reducing preparation, have explained the matter to the satisfaction of the Communications Commission. Evidence was submitted, the Commission said today, that the stations carried the programs for short periods and discontinued it after receiving complaints. . . . The five still facing Commission citations include KFRC, San Francisco; KMBC, Kansas City; and KNX, Los Angeles." (San Diego *Union*, June 22, 1935.)

"A new charge of selling diplomas was faced yesterday by Percy Purviance, proprietor of a chiropractic college at 2168 Shattuck Avenue, Berkeley. Purviance,

(Continued on Page 17)



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BOARD OF MEDICAL EXAMINERS

(Continued from Page 15)

acquitted of a similar charge in 1932, was arrested for alleged violation of the State Medical Practice Act and released on $200 bail. Dr. C. O. Hunt, Secretary of the State Board of Chiropractic Examiners, obtained the warrant. Passing as a man named 'West,' Doctor Hunt said he applied for a diploma at Purviance's College, which would permit him 'to practice in Arizona.' He asserted he went to Reno and shortly thereafter received the diploma C. O. D. for $100, without attending the college. Purviance, however, told Deputy District Attorney Arthur Sherry that 'West' had worked in the college two days and asserted he was convinced the applicant had sufficient knowledge to warrant issuance of the certificate. Sherry said he had received scores of complaints regarding issuance of certificates from the college." (San Francisco *Examiner*, June 20, 1935.) (Previous entry, June, 1932.)

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"Three graduates of the State College of Chiropractic and Naturopathic Physicians of 85 East San Antonio Street, presented themselves for the State Chiropractic Board examination in San Francisco Monday night, but Dr. Harold F. Kelly, Manuel M. Alvarnaz, and Kermet E. Yerkes were denied the privilege because the school allegedly has not authority to issue degrees in chiropractic. . . . Yesterday all of them filed suits against the college for $5,000 damages each, through their attorney, Edward M. Fellows. According to their complaint, they each signed contracts with the California Chiropractic College, Inc., in April, 1934. Last February 1 the college changed its name to the State College of Chiropractic and Naturopathic Physicians. They claim that the college has not issued degrees and is not authorized by law to issue them. Kelly invested $550 in the course. Alvarnaz invested $585, and Yerkes, . . . a salesman, invested $750." (San Jose *Mercury-Herald*, July 10, 1935.)

"The State College of Chiropractic of San Jose filed suit yesterday in the Superior Court for $100,000 damages against the State Board of Chiropractic Examiners, alleging the Board refused to allow graduates of the school to take the State examination for admission to practice because the college does not grant the degree Doctor of Chiropractic. . . ." (San Francisco *Call-Bulletin*, July 15, 1935.)

"Twelve cases of temporary blindness reported in the Bay region were being investigated by scientists yesterday in a determined attempt to discover whether or not they had been caused by dinitrophenol, recently developed antifat drug, now being used by more than a million people throughout the world. . . . Since 1932 it had been studied at Stanford by Doctors M. L. Tainter, W. C. Cutting, and others. In all their reports to the medical profession, they emphasized the known dangers of the drug and pointed out its use was still strictly in the experimental stage. Coincident with yesterday's announcement came the ruling of the

(Continued on Next Page)

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BOARD OF MEDICAL EXAMINERS

(Continued from Preceding Page)

American Medical Association's Council on Pharmacy and Chemistry that dinitrophenol has not yet passed the experimental stage and is not ready for general use. . . ." (San Francisco *Chronicle,* July 9, 1935.)

"Dr. Clayton E. Wheeler, goat-gland specialist, 2429 Wilshire Boulevard, was arrested today by Deputy United States Marshal Jim Lovell on a secret indictment charging him with using the mails to defraud. The indictment charged that Wheeler fraudulently represented that his goat-gland treatment was a cure-all. His representation that he had 40,000 to 50,000 goats on Catalina Island, from which to extract glands, was false, the indictment charged. Doctor Wheeler furnished $2,500 bail, pending his arraignment in Federal Court on the charge." (Hollywood *Citizen News,* July 13, 1935.) (Previous entries, December, 1928; January, June, July, 1929; August and December, 1934.)

"Dr. Rutherford B. Irones, ex-mayor, who was convicted of 'hit and run' driving, may keep his license to practice medicine, according to a recent decision of the Board of Medical Examiners. The court terminated his probation Saturday after he had served four months of his six months' jail term, and the complaint of the medical board was dropped." (San Diego *Tribune,* July 11, 1935.)

"Inspectors are investigating an asserted racket of a firm in a distant city securing funds from sick and afflicted persons in Arcadia and other cities. It was stated that a number of residents have sent money and a handkerchief, with the understanding that in a short time the handkerchief would be returned and the patient would recover. The patient was instructed not to eat during the interim and they believed that they would become well and happy again. A resident in the city who had remitted had not eaten in ten days and when discovered by a neighbor he fainted upon little exercise. The man was so firm in his belief that he would recover that it took several hours to convince him that unless he consented to have medical attention and took nourishment, he would die. Later he was taken to a hospital, and it is said he will recover" (Arcadia, California, *News,* June 21, 1935). The handkerchief-blessing racket is not new. Several years ago it was worked in Los Angeles by a faker who mulcted Los Angeles citizens of large sums of money, collected in small amounts for "blessing" the victim's handkerchief.

According to a clipping from the Rochester, New York *Journal* of June 11, 1935, Tsuneyoshi Koba is reported again imposing on the public with his alleged medical credentials and was assertedly sentenced to serve twenty days in the Monroe County penitentiary. (Previous entries, February, 1930; September, 1931; March, 1932; January, 1934.)

A new method of treating arthritis, consisting of powders taken internally and a magic stone, which, placed externally upon the painful spot, theoretically banishes the torture, made its appearance this morning before Municipal Judge A. A. Scott. At least that was the story of William A. Byrne, inspector for the State Medical Board, on whose complaint S. M. Shepardson, 537 South Fremont Street, was arraigned today. . . . Byrne declared that Shepardson gave C. E. Sadness powders and the magic pain-killing stone during two months' treatment for arthritis, fee $25,

(Continued on Page 20)

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BOARD OF MEDICAL EXAMINERS

(Continued from Page 18)

without possession of a license to practice medicine. Lacking $500 bail, Shepardson was placed in jail pending his trial. There was some disagreement over whether the pain-killing stone actually performed its mission." (Los Angeles *Herald-Express,* June 28, 1935.)

"Death was the price paid today by Frances E. Jacques, twenty-four, for slenderness. According to physicians at the General Hospital, the young woman died there this morning from an overdose or an accumulation in her system of dinitrophenol, a drug which recently has come into use to reduce overweight. . . ." (Los Angeles *Herald-Express,* July 13, 1935.)

"The appeal of Dr. F. D. Coltrin of Fullerton, found guilty of second degree murder and performing an illegal operation in connection with the death of Charlotte Valentine, 16-year-old Santa Ana High School girl, was being heard today before the Fourth District Court of Appeal in San Diego. . . . The case undoubtedly would be taken under advisement. . . . The Attorney-General has filed a brief in which the asserted grounds of reversal of the judgment are disputed." (Orange *News,* July 9, 1935.) (Previous entries, June, 1925; April, May, and June, 1935.)

I have hope and wish that the nobler sort of physicians will advance their thoughts, and not employ their time wholly in the sordidness of cures; neither be honored for necessity only; but that they will become coadjutors and instruments of the divine omnipotence and clemency in prolonging and renewing the life of man.—Bacon.

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(Continued on Page 22)

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An approved clinical pathologist should be a licensed graduate of medicine. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry, and other allied subjects for at least three years, and he should be reasonably familiar with the manifestations of disease in the body. The director of a clinical laboratory shall be on full time or have definite hours of attendance, devoting the major part of his time to this specialty. A clinical laboratory is an institution organized for the practical application of the fundamental sciences by the use of specialized apparatus, equipment and methods, for the purpose of ascertaining the presence, nature, source, and progress of disease in the human body.

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	%	%	%	%	%	%
Calcium	0.780	0.069	0.021	0.027	0.120	0.067
Iron	0.03	0.0038	0.0008	0.0009	0.00024	0.003
Phosphorus	0.620	0.392	0.125	0.093	0.093	0.180
Copper	0.0013	0.0005	0.00017	0.00034	0.000015	0.00023
Vitamin A	+	— to +	—	— to +	+ + +	+ + +
Vitamin B(B_1)	+ + +	+ +	— to +	+	+ +	+ to + +
Vitamin C	—*	—*	—*	—*	—*	—*
Vitamin D	—**	—**	—**	—**	—**	—**
Vitamin E	+ + +	+ +	—	—	+	+ +
Vitamin G	+ + +	+	— to +	+	+ + +	+ + +
Moisture	7.0	8.0	10.9	35.3	87.0	73.7
Protein	15.0	15.2	11.0	9.2	3.3	13.4
Fat	3.0	7.3	1.4	1.3	4.0	10.5
Carbohydrate	70.8	66.2	76.3	53.1	5.0	—
Calories per oz.	106	110	103	74	20	42
Alkaline Reaction	✓				✓	

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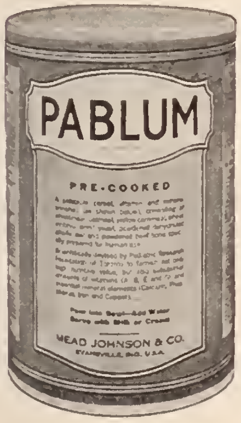

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The "Gambusia" Minnow—A Misnamed "No-Good" Fish.—Many out-of-door pools and aquariums are stocked with a small fish which is of no great beauty but which, nevertheless, makes an attractive display in a large number. It is commonly known in the Southern States as the "no-good" fish. This unfortunate cognomen, through its generic name *Gambusia affinis,* which is derived from "gambusiana," a word which is commonly used in Cuba and which means "small" or "of no importance," does not indicate its true value. Since this fish is worth millions of dollars to the Southern States alone, because of its activities in the destruction of mosquito larvae, it is apparent that its name is most unfitting.

This small, surface-feeding top minnow is native in the southeastern part of the United States, ranging from New Jersey southward along the Atlantic seaboard and westward along the entire Gulf coast as far as western Texas along the Mexican border. It is also found as far north as Tennessee and Missouri. It feeds lightly upon insects and wherever it inhabits water in which mosquitoes breed, its principal food consists of mosquito larvae. It has been found superior to any other species in the destruction of such larvae. Because of its small size, it is able to penetrate to very shallow depths, where it is free from the attacks of predacious fish. Large numbers are often found in water which is less than an inch in depth. In fact, those conditions which are ideal for mosquito propagation are best suited to the *Gambusia affinis.* It seeks its food at the surface along the edges of ponds, in marsh grass and swamps, where it is also protected from large fish. It is seldom found in open waters where game fish are present.

In April of 1922, the California State Board of Health received a consignment of 590 of these top minnows from Texas, followed by a shipment of 500 one month later. These shipments were planted in the Fort Sutter lily pond in Sacramento and were allowed to propagate unmolested until July, when 600 were

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removed for the establishment of hatcheries in two localities in the Sacramento Valley. In the following year more than twenty-five hatcheries were established from Redding to the north as far as Santa Ana in the south. The enormous propagation of this important factor in mosquito control can scarcely be estimated. Many millions of them are now scattered throughout the State. Most out-of-door pools in both public and private places are stocked with *Gambusia affinis*. The results that have been accomplshed in mosquito control through this single agency are most outstanding.

This fish is viviparous and very hardy. It is most vigorous and active in its movements. It is very prolific, producing as many as six to eight broods in a season, averaging forty young to a single brood. Three generations may be represented in a single season. It requires no special environment for spawning, since the young are in an advanced state of development at birth and not subject to the same dangers which beset the young of oviparous fish. At birth these minnows are approximately one-half inch in total length and they have been observed to start their activities in larvae destruction when not more than one day old. The female attains an average size of two inches when matured, exceptionally large ones reaching possibly two and one-half inches in total length. The male rarely attains a length of more than one and one-quarter inches and many of them are not more than three-fourths of an inch in length. Because of its extreme prolification, easy propagation, ability to adapt itself to different conditions and to reach areas not penetrated by other species, its exceptional devouring capacity, general habits, and because it lives in identical areas with mosquito larvae, the *Gambusia affinis* is the most valuable natural agent known in the abatement of mosquito breeding. Regardless of its small size, each fish is able to consume more than one hundred mosquito larvae every day.

Following the introduction into California of *Gambusia affinis*, a supply of these useful members of the finny tribe was sent to the Steinhart Aquarium in Golden Gate Park, San Francisco. They have multiplied prodigiously under aquarium conditions, as they do in their native pools. The California Academy of Sciences, which controls the Steinhart Aquarium, has sent colonies of these top minnows to many distant parts of the world. One colony was sent to Father Rogier at Papeete, Tahiti. They arrived safely in spite of the long journey, and were used in stocking ponds in Papeete. Another colony was sent to Father Rogier later for stocking ponds on Christmas Island. The academy has also sent supplies of these fish to India, Philippine Islands, Panama, Hawaii, China, Japan, and Siam. None can state, even approximately, how many of these top minnows are now in California waters.

(Continued on Next Page)

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(Continued from Preceding Page)

To even guess at the number of millions would be unsafe.

While it is true that these finny friends can only be counted on for perfect results in mosquito control when proper conditions are found, they constitute a most valuable ally in the control of these insects, as well as in the control of malaria. They cannot accomplish miracles, but they can help greatly in the elimination of the insect pest. Owners of outdoor pools and aquariums can easily obtain supplies of *Gambusia affinis* and may derive considerable enjoyment through watching them in their development. They will generally thrive with goldfish, and their neutral color provides contrast to the brilliant colors of other aquarium fish. There is some danger that large fish will destroy them. They are particularly endangered by larger fish of the carp family.

Considerable respect is due to these tiny friends, for through their activities they have added greatly to the comfort of man. They do not possess the beauty that belongs to most aquarium fish, but their interesting natural history and their great activity make them objects of admiration to all owners of pools and aquariums.—*Weekly Bulletin, California Department of Public Health.*

What Is a Balanced Ration?—The question, "What is a balanced ration?" is one that has caused no end of discussion in the past few years. As a matter of fact, whole books have been written on the subject, and numerous courses of study have been built about this one subject. As a result a great many persons have come to suppose that it is an extremely difficult and technical matter that can only be understood after much study and deep investigation. Actually it is nothing of the sort. We doubt very seriously if a single important concept can be added to the following sentence as a definition. *A balanced ration is an abundance of a variety of clean, wholesome food, which is not too much changed in the cooking, but is carefully prepared, attractively served and eaten in the midst of peace and contentment.* Surely this is not a very complicated concept. It is one that needs no explaining except perhaps to say that by wholesome we mean food that is not spoiled, that is suitable for eating, and has not been contaminated by filth.

If the above ration is inadequate in any respect, it can be abundantly supplemented simply by the addition of a rather small amount of so-called protective foods such as milk, vegetables, and fruit. It would not be necessary that one subsist entirely upon milk, vegetables and fruit, but merely that he should emphasize them to some extent and assure himself that he would get some of these particular varieties of food every day or even, preferably, every meal. It is our opinion that the health of the people from the standpoint of

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diet would be much better if teachers of domestic science, cooking and related subjects, and if dietitians in general would concentrate their efforts to see that the public has a reasonable amount of these protective foods and then leave the remainder of the menu to their wishes, tastes, and instincts.

We believe that the individual who will consume the protective foods to the extent of perhaps one-third of his menu or, stated more specifically, to the amount of perhaps 1,000 calories a day, and then will eat anything else that he may wish, provided, of course, that it is clean and wholesome, will be adequately nourished. We also believe that the excessive amount of fussing and stewing about foods which is now more or less common is very definitely and specifically injurious to health. We believe that it is time to put the *living* back into healthful living and begin to think about something else besides the care of one's own precious self. Those who spend so much time taking care of themselves succeed only in remembering how miserable they are.

A balanced ration is vitally important, but not at all hard to attain if one will pay a little attention to the protective foods and let nature and instinct take care of the rest.

Federal Food and Drug Administration Activities—Added Color in Food Causes Many Seizures.—Added yellow color in macaroni, spaghetti, noodles and similar products, regardless of the source or nature of the color, constitutes adulteration, says the Food and Drug Administration, in reporting May activities. In May thirty-seven shipments of these products were seized when analysis showed the presence of soy-bean flour, of tumeric (a vegetable dye), or of a yellow coal-tar food color.

The addition of coloring material to alimentary pastes conceals inferiority, a form of adulteration which no form of labeling can correct. Even the use of small quantities of soya flour or of color in flour macaroni results in violation of the Food and Drugs Act, as in appearance the finished product then simulates the higher grade semolina article. The Food and Drug Administration will continue seizing shipments which violate the Act.

Manufacturers of other commodities, too, in their competitive efforts, resort to artificial colors. The Food and Drug Administration reiterates its stand that wherever the presence of an artificial color conceals inferiority, the food containing it is illegal. In cases where added color does not conceal inferiority, the fact of the presence of artificial color must still be declared on the label of the food containing it.

Two lots of prepared artificial colors and flavors intended for use in salad oil mixtures were seized during the month on account of misleading label references to olive oil. These articles are evidently in the

(Continued on Page 34)

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Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

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EDITORIALS†

NEW PLACEMENT FOR THE EDITORIALS

Beginning with the current issue, in response to the request of members of the California Medical Association Committee on Public Relations and other readers, and in line with several state association publications, the editorials are given first place in the pages of text. This action was thought to be desirable because CALIFORNIA AND WESTERN MEDICINE, as the official journal of the California Medical Association, was called into being in order to bring the problems of organized medicine to the prompt attention of the Association members. It is to be hoped that the typographical change and make-up will meet with their approval. It has been stated on many occasions that officers of the Association and its component county societies can perform their work to best advantage, in proportion as they understand the points of view held by members concerning medical problems and policies; and it is believed that this change in the placement of editorial discussions will aid in the attainment of that end.

THE A. M. A. AND HEALTH INSURANCE IN CALIFORNIA

Atlantic City Press Dispatches Concerning the California Medical Association and Health Insurance.—Considerable interest has been shown by members, and requests made for more information regarding the Associated Press* and other news dispatches sent out from Atlantic City on June 12 last, following the election of officers of the American Medical Association, at which time Dr. Frederick C. Warnshuis, the present secretary of the California Medical Association and since 1922 distinguished as the Speaker of the American Medical Association House of Delegates, was not reëlected—supposedly as a chastisement to the California Medical Association for its action in taking an active part in drafting a law for some form of compulsory health insurance. These national press bureau dispatches, incorporating the so-called "spanking" item, may or may not have had the approval of the American Medical Association's annual session press committee, but it nevertheless seems curious that the idea of such a punitive "spanking" should have been so generously broadcast when not one word was said upon the subject in the open sessions of the American Medical Association House of Delegates. Naturally, the action taken by the American Medical Association has provoked comment throughout California, and no little surprise has been expressed that the well-meant and unselfish efforts of the California Medical Association in trying to solve one of its important social welfare problems should have brought down upon our state organization any such expression of displeasure from the national association.

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† Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

* See pages 90 and 103 of the July, 1935, issue of CALIFORNIA AND WESTERN MEDICINE.

* * *

California Medical Association Has No Apologies to Offer.—It may be in order, therefore, to state that the California Medical Association makes no apologies for the manner in which it strove to meet its obligations through the institution of the insurance principle for medical care of citizens belonging to the low-bracket income group. It is no doubt difficult for the profession in eastern states, living and working under, and with conservative traditions and populations to understand why it was both necessary and natural for the California Medical Association to take the initiative in drafting proposed health insurance legislation. The record of the California Medical Association, however, is very clear, and in the minds of most California physicians quite satisfactory, notwithstanding the American Medical Association's presumable reprimand; for a perusal of the annual session proceedings of the California Medical Association, as printed in succeeding files of California and Western Medicine, will show that, more and more in recent years, the subject of adequate medical care for all classes of citizens has been given unusual attention in this State.

* * *

California Medical Association and the A. M. A. Bureau of Medical Economics.—As a matter of fact, the California Association was the only one of the forty-eight constituent state societies of the American Medical Association which, prior to the organization of the American Medical Association Bureau of Medical Economics, saw fit to petition the American Medical Association House of Delegates to form just such a bureau; a department which, had the national organization been fully alert to changing social and other conditions, might well have been brought into existence half a dozen years before it began its work. Mention is made of this action because it indicates that the California Medical Association, years ago, felt the need of special study on medical-economic problems, and believed that the national organization was laggard in its responsibilities to its constituent state units in not taking up, in aggressive fashion as it is now finally doing, the collection of detailed factual information of prospective value to those state associations which were bravely trying to meet the pressing medical issues of their commonwealths.

California Medical Association's Large Expenditure for Its Sickness Incidence Studies.—In view of the criticisms, direct and implied, recently showered upon the California Medical Association because of presumably poor judgment or lack of loyalty to precepts handed down by the American Medical Association, many members of the California Medical Association are asking what other state medical associations in the last several years have spent practically $50,000 of their reserve resources, as California so liberally has done, in making a study of sickness and allied problems? Is there a single one that has or would have spent that imposing amount of money? Had the American Medical Association, with its far greater resources, gotten together, for use by constituent state associations throughout the Union, such exact and much-needed informative material, several years ago, the funds recently expended in California could have been utilized for other and more needed purposes. As time goes on, and other state associations find themselves confronted with conditions precisely such as those which first developed in California, it is possible that the truth of what has just been stated may have more appeal.

* * *

California's Battle for Ethical Advertising in the National Journal.—The memories of men and of organizations are often shortlived. The so-called 1935 chastisement of the California Medical Association, by none other than its national parent, recalls to the minds of older members of the California Medical Association a previous experience in which the organized profession of this State was for a time in disfavor with the American Medical Association authorities at Chicago, but with no more disconcertion or discouragement to itself than at present. We refer to the fight, some thirty years ago, made by the *California State Journal of Medicine*,[†] when, although our official publication was then in its infancy, its courageous editor, the late Dr. Philip Mills Jones, led in the battle to have *The Journal of the American Medical Association* clean up its pages of offensive advertisements. Dr. George H. Simmons, Emeritus Editor of the "Journal A. M. A.," and other officers of that period know to what extent the American Medical Association was indebted to the California Medical Association for the important service then rendered, and the story can be read in the files of the *California State Journal of Medicine* of those strenuous years.[*]

[†] The original name of the official journal of the California Medical Association was "California State Journal of Medicine." When the late Dr. W. E. Musgrave was editor, its name was changed to California and Western Medicine.

[*] In the Twenty-Five Years Ago column of the California and Western Medicine issues of 1929 and 1930 may be found portions of some of the editorials to which reference is made. An example is that on page 374 of the November, 1929, issue, with a quotation from the November, 1904, number, in which Doctor Jones, referring to the *Journal of the Medical Society of New Jersey*, stated:

" . . . The policy announced by the journal (the *Journal of the Medical Society of New Jersey*) is one of clean and decent advertising, and the chairman of the Publication Committee writes us that he will do all in his power to

In due time—and probably earlier by several years than would have been the case had not the California Medical Association through its own official journal initiated and espoused the cause—*The Journal of the American Medical Association* did adopt a policy of accepting only clean and ethical advertisements. And so it may happen again, in the not distant future, that those who felt California deserved a "spanking" lesson for supposedly having gotten out of American Medical Association traces, may find themselves at last won over to an opinion quite different from that to which they gave such expression and publicity at Atlantic City in June last.

* * *

California's Medical-Economic Problems Were Explained at Atlantic City. — In connection with the above comments, we would call attention to the informal remarks on page 160 of this issue, which, upon invitation, were made at Atlantic City to the American Medical Association House of Delegates by Council Chairman T. Henshaw Kelly of San Francisco, in reference to the subject of health insurance in California. At that time it was hoped that a clearer understanding of the California problems had been created; but later events indicated otherwise.

* * *

Little more need be said on the subject, save that the California Medical Association, in the present as in the past, will always be found loyal to the best interests of scientific and organized medicine, as its members and delegated officers understand the same.

ASSEMBLY BILL 246: FOR NONPROFIT HOSPITAL SERVICE

On page 175 is printed in full the text of Assembly Bill 246, the same being *"An Act for the regulation and control of corporations organized for the purpose of operating nonprofit hospital service plans."*

Members are requested to read this new law, which received the approval of Governor Frank Merriam on July 5, 1935, because it is possible that its enactment may pave the way for the formation of such institutions in many cities of the State. Each of such establishments as organized should receive the attention of the respective component county medical societies, because a misapplication of the provisions of the law could make for much future distress and complications to all concerned.

* * *

Concerning other legislation* pending before the Governor, it is not possible at the time of this writing to make comment. Statutes of special interest may be discussed in succeeding issues.

A LIBEL ON THE CALIFORNIA STATE BOARD OF HEALTH

A Statement in the "New Mexico Health Officer," Vol. V, No. 2.—Last month, in discussing in this column, and on page 50, "Newspaper Publicity on the California Medical Association Survey of Sickness Incidence," it was said:

> "We trust these comments will not be misunderstood. We do not believe that members of the California Medical Association are peeved, but we do think they have sufficient love and respect for factual data to wish the simple truth to be spoken." . . .

Now it may be added that, with the substitution of the words "California State Board of Health" for "California Medical Association," the above thought may be made equally germane to the discussion of some lines printed in the *New Mexico Health Officer* of June, 1935 where, under the caption, "A Problem in Distribution," are given extracts from an address "of Dr. Walter Brown* to the N. M. P. H. A. (New Mexico Public Health Association), written during its delivery, and a verbatim report of which will be published in the columns of *Southwestern Medicine*." The opening sentence of the second paragraph states:

> "Dr. Walter A. Brown, president-elect of the American Public Health Association and professor of public health at Stanford University, speaking on April 20 to a crowded audience of the New Mexico Public Health Association, said that the protection of public health is a problem of distribution." . . .

The particular thought credited to Doctor Brown, and to be here commented upon, is reprinted below, with italics which are our own:

> "Why is it that the people of the United States do not demand from the Government this type of investment? We are making an advance. The United States Public Health Service has been markedly developed in recent years. Progress has been made where trained and experienced workers are on the job with adequate facilities and continuity of service. *The California State Health Department has recently been torn to pieces from political motives. The time has come when this sort of thing should cease.*" . . .

* * *

The Statement Has No Foundation in Fact. The above is an amazing statement, the more so since we can affirm from decidedly first-hand knowledge that it has no basis whatever in fact. Members of the California Medical Association will be equally convinced that Doctor Brown spoke out of turn, and to be charitable, on insufficient or inaccurate data, when the names of the six non-salaried members of the California State Board of Health are noted. Each of these physicians has been associated for years with the work of organized and institutional medicine in California; and when it is added that they maintain the most cordial and unified personal relations, both official and otherwise, the absurdity of such a statement as that made by Dr. Walter H. Brown at once becomes evident.

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see that the advertising pages are kept clean. *Too many state society journals have followed the pernicious example of 'The Journal of the American Medical Association,' and have accepted pretty much anything offered.* We sincerely trust that New Jersey will stick to the policy announced, and keep its self-respect. . . ."

* For comments on amendments to California Medical Practice Act, see page 174.

* Dr. Walter H. Brown (M. D., Pennsylvania, 1906) is professor of hygiene in the Department of Hygiene, Stanford University.

The Non-Salaried Members of the California State Board of Health.—Who are the six non-salaried State Health Board members, whose loyal and efficient work on behalf of the State has been so besmirched by the ranking officer of the American Public Health Association?

They are:

Board President Howard Morrow of San Francisco, Professor of Dermatology in the Medical School of the University of California.

Board Vice-President Edward M. Pallette of Los Angeles, President-Elect of the California Medical Association and for some years Speaker of its House of Delegates.

Dr. Junius B. Harris of Sacramento, an ex-president of the California Medical Association and for years its committee chairman on public policy and legislation.

Dr. William R. P. Clark of San Francisco, for years on the Stanford University staff at the San Francisco County Hospital.

Dr. Gifford L. Sobey of Paso Robles, President of the Pacific Coast Association of Railway Surgeons.

Dr. George H. Kress of Los Angeles, an ex-president of the California Medical Association and editor of its official journal.

* * *

The Loyal and Efficient Public Health Service of These Men Deserves Commendation Rather Than Libel.—Each one of the above physicians is well known in his respective community, and the reputation of each for able and harmonious endeavor on behalf of organized medicine has been established through years of unselfish and sacrificing service. Singly and jointly they have no apology to make for their labors on behalf of the public health, and they, each and all, feel that neither Dr. Walter H. Brown nor any other person can point to a single public health need of importance in which they have not met their obligations to the State in the most efficient and agreeable manner. At no time have politics, in the sense presumably used by Doctor Brown, entered into their deliberations or activities; and the minutes of the Board meetings attest to the devotion with which public health work has been supervised by them.

* * *

Retractions Are in Order from Dr. Walter Brown.—It is not often that comments such as these have been printed in this column, and our regret is that they must now so appear; but the high position which Dr. Walter Brown holds in the American Public Health Association and the good name of the California State Board of Health alike demand that the real truth be spoken. If statements similar to the one made in New Mexico were expressed by Doctor Brown in other states which he visited, he certainly owes it to himself, to the American Public Health Association, and to his University to make the proper retractions and apologies.

POLIOMYELITIS

The Outbreak in 1934.—The July issue of California and Western Medicine contained an article, on page 13, by Dr. J. L. Pomeroy, Health Officer of Los Angeles County, in which the 1934 epidemic in Los Angeles County was in particular discussed, and references made to outbreaks of that disease in the years 1912, 1916, 1920, 1925, 1930. The existence of the entity, known in its various forms in different portions of the United States as poliomyelitis, cannot be gainsaid, and its recurrence is something to be reckoned with in California. Because of the widespread fear of poliomyelitis which prevails among members of the public as a result of the portrayal, in lay publications, of its dread nature and aftereffects, it is more important than ever that all measures likely to aid in overcoming its spread, when it is found in communities, should be fully utilized.

In spite of the lack of accurate knowledge concerning many pathologic and other phases of this morbid process, regardless of whether what is looked upon by some as poliomyelitis and held by others to be something else, may or may not be one and the same disease, the fact still remains, that certain structural change and symptom groups, called poliomyelitis, are responsible for morbidity manifestations associated with serious sequelae such as paralyses, and even death. It is most important that the disease should be recognized as early as possible, and at a time when its initial symptoms and signs may not be easily mistaken for much simpler and innocent infections. It is particularly desirable that members of the medical profession be informed of new outbreaks, wherever found in the State, so that alert, and with thoroughly proper coöperative effort, they may be in a position to more efficiently combat the malady. Otherwise, the health and lives of citizens of the State, and other public health interests, will not be fully protected.

* * *

Articles on Poliomyelitis Printed in This Issue.—On page 111 of the current issue of this Journal, Dr. E. W. Schultz of Stanford University, presents the results of some recent studies, under the title, "On the Problem of Immunization Against Poliomyelitis"; and on page 123 will be found another article, by Dr. R. W. Meals, giving additional information concerning the 1934 outbreak in Los Angeles. The attention of our readers, therefore, is called to these informative papers.

* * *

The Present Situation.—Before leaving the subject, it may be in order to append some excerpts from the minutes of recent meetings of the medical board of the attending staff of the Los Angeles County Hospital and of the California State Board of Health, dealing with a recent outbreak in Los Angeles which, it is hoped, will be of short duration. These are printed because it seems wiser to permit physicians to get their latest knowledge of poliomyelitis from authoritative sources rather than vague and misleading articles in the newspapers, and also in the belief that the following items may prove of interest:

From the minutes of a meeting held on July 2, 1935, of the medical board of the Los Angeles County Hospital:

"5. *Report on the Poliomyelitis Situation at the Hospital.* The Medical Director gave an account of the poliomyelitis situation at the hospital since its reappearance early in June, this year, and discussed particularly the combative activities undertaken and advised by the respective Health Departments and the standing Poliomyelitis Committee of the staff. He discussed the Brodie and Kolmer vaccines, the prophylactic injections of it to the student nurses and others as well as the incoming new nurses and internes, the experience and result of these vaccines here and elsewhere, and requested the Advisory Board's approval of these measures and its sanction for their continuation.

"Further comment brought out the fact that the use of the Kolmer vaccine (live virus) had been limited; and that the Brodie vaccine (killed virus) is the one the hospital is using in most cases.

"The chairman canvassed the members of the Board for their opinion, which was a general approval of the acts of the Medical Director.

"Doctor Kress read the following resolution, which was unanimously passed:

"WHEREAS, A beginning outbreak of poliomyelitis exists in Los Angeles at the present time; and

"WHEREAS, Since June 1, 1934, a total of seventy-seven cases have been isolated in the Los Angeles County Hospital; and

"WHEREAS, Certain vaccines known as the Kolmer and Brodie vaccines, have been recently brought forward which offer hope of preventing the spread of the disease; now, therefore, be it

"*Resolved,* By the Medical Advisory Board of the Attending Staff of the Los Angeles County Hospital, that voluntary vaccination along carefully-considered lines under the supervision of the administrative and medical staffs, and their advisory public health and special committees, herewith receives the approval of the Board, until such time as other action may be taken."

⁂

At the July 13, 1935, meeting, too, of the California State Board of Health, held in San Francisco, this year's outbreak at Los Angeles was considered, and in view of past experiences it was deemed advisable to make certain recommendations, with special reference to county hospitals, which suggestions, it is hoped, will be favorably received and acted upon, until better methods are demonstrated. Some of the deplorable results, as regards attending internes and nurses, in connection with the Los Angeles County Hospital outbreak of 1934, were discussed editorially on page 50 of the July, 1934, issue of CALIFORNIA AND WESTERN MEDICINE. There should be no repetition of those sad experiences.

The following is excerpted from the minutes of the State Board of Health meeting of July 13, 1935:

"*Poliomyelitis.*

"Doctor Pallette gave a short verbal report on the recent outbreak of poliomyelitis in the Los Angeles General Hospital among the nursing staff, with the death of one interne. After discussion, in which Doctor Atwater (Executive Secretary, American Public Health Association) joined, the following resolution, introduced by Doctor Kress, was unanimously adopted:

"*Resolved,* By the California State Board of Public Health, at this meeting of July 13, 1935, in the light of present knowledge concerning poliomyelitis in California, it is desirable from the standpoint of prevention of the disease that the following rules of guidance be observed in California:

"1. That poliomyelitis patients should not be treated in the regular wards of a general hospital, and that the constituted authorities of such general hospitals be so notified, isolation buildings* being recommended.

"2. That wherever possible, the nursing personnel used in the care of poliomyelitis patients be composed of nurses who are at least thirty-five years of age.

"It was moved by Doctor Kress, seconded by Doctor Pallette, and carried, that a copy of this resolution be sent to every county hospital in California, and that the same be printed in the next issue of the *Weekly Bulletin of the State Department of Public Health.*"

* * *

How Component County Societies Could Aid.—Component county societies could perform a real service to their respective communities if they would call the attention of their county boards of supervisors and county hospital authorities to the resolutions of the California State Board of Health, as printed above.

Other State Association and Component County Society News.—Additional news concerning the activities and work of the California Medical Association and its component county medical societies is printed in this issue, commencing on page 160.

EDITORIAL COMMENT†

ANISEIKONIA

There is a new word in ophthalmology—"Aniseikonia." The term denotes the difference in size and shape of the retinal images in the two eyes. The concept of this disparity of the retinal images, the method of its measurement and correction with special lenses has been developed by Dr. Adelbert Ames and his associates at Dartmouth Medical School. They have perfected an elaborate apparatus with which the trained expert is able to measure the size and shape of the ocular images, and to prescribe corrective lenses which match the image of one eye with that of its fellow.

The cause of the unequal image size may be optical, that is, be due to differences in refractive errors of the two eyes; or it may be congenital, due to unequal disposition of the rods and cones in the retina, or it may still occasionally be cerebral.

Individuals having dissimilar ocular images in the two eyes strive to fuse these unequal impressions in the brain in order to maintain binocular single vision. The struggle to maintain binocular single vision, and to overcome the barrier of the disparate images, produces symptoms of eyestrain, headache, photophobia, inability for continued reading, and at times even diplopia. Furthermore, a host of general symptoms may develop which often are not referred to the use of the eyes at all, but appear to be due to a constitutional deenergization or depletion of nervous vitality. Yet all of these symptoms disappear when the proper image-size correcting glasses are given.

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* In the Correspondence column of this issue, on page 173, is printed a letter signed by Mr. Norman R. Martin, executive superintendent of the Los Angeles County General Hospital, in which the need of an isolation building for that institution.

† This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentations should be over five hundred words in length.

It is common knowledge among physicians that ocular disorders frequently cause symptoms such as nausea, dizziness, general nervous depletion, etc., and that these are often relieved by correction of refractive and muscular errors. Yet, in the daily experience of almost every ophthalmologist, a certain percentage of patients are not relieved by the most painstaking refraction and attention to muscle anomalies. This group of patients wander from one ophthalmologist to another, seeking satisfaction; are treated by physicians, neurologists and drug or drugless practitioners without avail, or with only transient improvement. A large percentage of the "incurables" are now shown to be cases of aniseikonia. This has been abundantly proved by the work of Doctor Ames and his associates, and we have been able to convince ourselves of it through personal experience. Not only are heretofore incurable ocular cases relieved by this method, but also many of those unfortunate sufferers who, in the absence of a demonstrable cause for their complaints, have in the past been diagnosed as neurasthenics, hysterics, or constitutional inferiors.

The new instrument is known as the eikonometer. The departure is that the iseikonic lenses, as they are called, not only correct as formerly the refractive error, but equalize the image size. We feel, then, that the primary cause of the clinical pictures and disorders mentioned above is localized in the retina or brain. The muscular and innervational disorders, which have heretofore been regarded as the cause of the symptoms and been objects of treatment and surgery, are now recognized to be only the peripheral or reflex manifestations of a central defect—unequal image size or "aniseikonia." When this is corrected, the signs and symptoms almost miraculously disappear.

In our opinion, Doctor Ames and his associates have done work which, besides ranking high in the annals of science, also gives us a therapeutic method of hitherto undreamed-of possibilities.

490 Post Street.

Otto Barkan,
San Francisco.

INHALATION OF ADRENALIN FOR THE RELIEF OF ASTHMA

Although adrenalin given hypodermically is the drug *par excellence* for relief of asthmatic symptoms, few attempts have been made to explore the possibilities of its administration by inhalation. Recent experiments carried out by the authors have demonstrated the feasibility of obtaining excellent relief of symptoms by the inhalation of a 1:100 solution of adrenalin.*

The procedure as carried out is most simple. Using an atomizer which creates a fine vapor-like spray, the patient inhales while nebulizing the solution into the open mouth. Dosage is determined by the number of inhalations, and varies with each individual. It depends primarily on the manner in which the patient manipulates the atomizer and correlates inhalation with bulb compression, etc. For administration to children and babies unable to coöperate in the above manner, a motor-driven air pump is used to create a continuous spray into a small face mask.

The degree of relief obtained by this method is comparable to that resulting from the hypodermic administration of the 1:1000 solution. The rapidity of obtaining relief is often greater than by the latter route, rarely is it any slower. "Prophylactic" inhalation in relatively symptom-free periods often lessens the frequency of the severe paroxysms. The use of this solution is rarely attended by the disagreeable symptoms which often follow hypodermic administration. Abdominal cramps occasionally result when some of the solution is swallowed. This happened frequently in our early trials when the common atomizers were used. By rinsing the mouth with water immediately following inhalation, this disagreeable feature may be avoided.

The above-described procedure has been used by two hundred patients from our private practice and charity clinic. This group included patients of all ages, from eleven months to seventy-two years. We have not yet had an opportunity to try the procedure on a severe case of status asthmaticus in which hypodermic adrenalin is no longer of benefit. Our experience has been so uniformly successful that we feel the inhalation of the 1:100 adrenalin solution, nebulized by suitable atomizers, may be widely substituted for the hypodermic administration of adrenalin. Furthermore, it will allow the medical profession to combat more adequately the widespread use of the many proprietary asthma remedies now advertised and distributed through nonmedical channels.

242 Moss Avenue.

James B. Graeser,
Albert H. Rowe,
Oakland.

The load of tomorrow added to that of yesterday, carried today, makes the strongest falter. Shut off the future as tightly as the past. No dreams, no visions, no delicious fantasies, no castles in the air, with which, as the old song so truly says, "Hearts are broken, heads are turned." To youth, we are told, belongs the future, but the wretched tomorrow that so plagues some of us has no certainty, except through today. Who can tell what a day may bring forth? Though its uncertainty is a proverb, a man may carry its secret in the hollow of his hand. Make a pilgrimage to Hades with Ulysses, draw the magic circle, perform the rites, and then ask Tiresias the question. I have had the answer from his own lips. The future is today—there is no tomorrow! The day of a man's salvation is *now*—the life of the present, of today, lived earnestly, intently, without a forward-looking thought, is the only insurance for the future.—Sir William Osler.

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* Furnished through the courtesy of Parke-Davis and Company.

ORIGINAL ARTICLES

ON THE PROBLEM OF IMMUNIZATION AGAINST POLIOMYELITIS*†

By E. W. Schultz, M.D.
and
L. P. Gebhardt, M.A.
Stanford University

We wish to present briefly our observations on *passive,* and also on *active* immunization against experimental poliomyelitis, and to offer an interpretation of the results.

EXPERIMENTS TO DETERMINE THE PROTECTIVE VALUE OF IMMUNE SERUM

Fourteen experiments were carried out in an effort to determine the protective value of immune serum. In all of the experiments the serum was administered at least twenty-four hours preceding the inoculation of animals with virus. An immune *horse* serum of high virucidal titer was used in most of the experiments. Pooled monkey convalescent serum, and pooled normal adult human serum, were included in several experiments for comparison. These serums were administered by different routes and for the most part in very large doses, most of the animals receiving a total of about 5 cubic centimeters per kilo, or an amount equivalent to about 350 cubic centimeters for the average human adult. The virus was inoculated intracranially in half of the experiments, and in half intranasally. The doses used ranged from about 4 to more than 200 M. I. D.

The results obtained were, briefly, as follows: Out of a total of ninety-one monkeys which received immune serum, only twenty-eight, or 30 per cent, escaped infection. Since 7 per cent of the twenty-seven controls used also failed to develop the disease, the net protection for the entire series was not over 23 per cent. The net protection of serum-treated animals inoculated with virus by the intranasal route was 29 per cent.

The incidence of serum-treated animals which escaped infection bore some relationship to the dose of virus with which the animals were inoculated. Of the animals which received more than 100 M. I. D.'s of virus, only 20 per cent escaped infection; of those which received less than this amount, 34 per cent escaped the disease. In certain experiments in which large doses of immune horse serum were administered, and the dose of virus was reduced to less than 10 M. I. D., the net protection rose to about 70 per cent. Convalescent monkey serum proved less effective than immune horse serum, and pooled "normal" adult human serum was the least effective. In short, three-fourths of the animals which were injected with immune horse serum sufficient to neutralize at least 200,000 M. I. D. of virus, failed to resist 100 M. I. D.'s, or more of virus; a fourth failed to resist less than 10 M. I. D. It is apparent, therefore, that for protection against a given dose of virus a disproportionately high concentration of antibodies is necessary.

OTHER FEATURES OF EXPERIMENTAL RESULTS

A noteworthy feature of our results was that while immune serum sometimes seemed to have the effect of considerably prolonging the incubation period, especially in animals which had been inoculated with small doses of virus, when these animals finally developed the disease, they came down with as extensive paralysis as the controls, suggesting that immune serum tends to effect a reduction in the quantity of virus *free to initiate infection,* but that infection once established is not appreciably altered by immune serum. This is in harmony with recent observations on the pathogenesis of poliomyelitis, which indicate that from the beginning of infection to the end of the disease, the virus is in close, probably largely intracellular relationship with neurons, and in harmony, also, with observations we have reported elsewhere; which indicate that serum administered two or more days after the inoculation of animals with virus is without power to modify the course of an infection.

However, while there is evidence that immune serum is without value once the virus has become established in a given neuron, it is not quite so apparent why animals which have been injected with large doses of a high titer immune serum should not be better protected. The explanation probably rests on the fact that the olfactory nerve, the usual portal of entrance, is really very accessible to the virus. Should the specialized endings of this nerve—the so-called olfactory hairs—represent the true portal, then it is easy to understand why the injection of an immune serum does not effectively "block" the entrance of the virus; for it seems quite unlikely that the immune substances injected come into anything like intimate contact with these free endings. While recent measurements on the size of the virus (8 to 12 mu*) are not against this possibility, we are inclined to believe that the true portal may be the "olfactory cells"—in other words, the nuclei of the first group of neurons of the olfactory nerve. This appears the more likely to us in view of the fact that immune serum *does* seem to have the effect of reducing *somewhat* the dose of the virus *free to initiate infection,* a conclusion which may be drawn from the longer incubation periods sometimes seen in serum-protected animals. But whether the exact portal of entry is the olfactory "hairs" or the olfactory cells, or both, the fact remains that immune serum does not seem to provide a very effective barrier at the portal of entrance, a very high humoral immunity being required for uniform protection against even a small dose of virus.

ATTEMPTS AT ACTIVE IMMUNIZATION

Since serum cannot be depended on to prevent the implantation of virus, and since infection, once established, cannot be appreciably modified by serum, it seems plain that the only hope of controlling this disease lies in the possibility of active immunization. It should be remembered, however, that the term "active immunization" has a somewhat restricted meaning in the case of poliomyelitis, for a true, acquired active immunity to this disease is basically a cellular and not a humoral phenomenon.

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* From the department of bacteriology and experimental pathology, Stanford University.
Read before a joint meeting of the American Association of Pathologists and Bacteriologists and American Association of Immunologists, New York City, April 13, 1935.

† See also pages 108 and 123.

* Mu = a millimicron, or 1/1,000 of a micron.

We have during the past several years carried out a sufficient number of experiments on active immunization by different procedures to satisfy ourselves that it is much easier to produce an antiserum in monkeys than it is to render them significantly resistant to experimental inoculation with virus. However, feeling that we had used too large a dose of virus in testing the resistance of monkeys "immunized" earlier, we recently undertook to immunize fifteen monkeys with a 10 per cent virus suspension inactivated with 0.1 per cent formaldehyde (Brodie vaccine). Three animals received this vaccine by the subcutaneous route; four by the intramuscular route; and four by the intradermal route, a total of five injections of 0.1 cubic centimeter per kilo being administered to each animal at intervals of one week. Four animals received 1 cubic centimeter of the vaccine per kilo by the intravenous route for five injections. Twenty-four days after the final injection all of the animals were inoculated intracerebrally with about 3 M. I. D. of virus. All developed the disease in about the same length of time, and with about as extensive paralysis as the controls, despite the fact that their serums seem to have acquired slight, but definite virucidal properties. The serums of another series of animals "immunized" earlier with *living* virus (Kolmer vaccine) neutralized 30 M. I. D. doses of virus per cubic centimeter, but when these animals were subjected to intranasal instillation with active virus they all developed typical poliomyelitis. In still another experiment we repeatedly injected four monkeys with 1 cubic centimeter of formaldehyde inactivated virus by the intracerebral route. Two months after beginning the immunization they were all given an intracerebral injection of 1 cubic centimeter of a virus suspension treated with 0.005 per cent formaldehyde for twenty-four hours at 37 degrees centigrade. All developed extensive paralysis in the usual length of time.

Finally, we instilled formaldehyde inactivated virus intranasally into four monkeys, giving five instillations at intervals of a week, each instillation being preceded by an intranasal lavage. All of these animals came down following an intranasal instillation with *active* virus.

DIFFICULTIES ASSOCIATED WITH ACTIVE IMMUNIZATION

The difficulty associated with active immunization apparently rests on the fact that normally susceptible neurons are not readily modified except by intracellular contact with active virus. In other words, true acquired active immunity to this disease seems to depend on some *modifying action* which rests on *active neural infection.* As we see it, this modification need *not necessarily* be associated with demonstrable antibodies in the blood. It seems possible that such humoral antibodies as may make their appearance in *naturally acquired active immunity* to this disease may rest largely, if not entirely, on chance contact of virus with extraneural tissue and may, therefore, be entirely adventitious so far as the true immunity is concerned. It is conceivable that if the virus remained confined strictly to the neurons during the course of a natural infection, an acquired active immunity might result which would *not* be associated with antibodies in the blood plasma. That the virus, however, does not remain so confined is evidenced by round cell infiltration, not only where neurons have been damaged, but in regions where no actual damage is recognizable. Contact with extraneural tissue is all that is necessary to account for antibody production. It should be borne in mind, however, that antibody formation which results from virus which has emanated from infected neurons must be distinguished from antibody formation, which is the result of artificial extra neural injections of virus. In the former, the antibodies produced are an incidental and adventitious part of a *neuron modifying infection,* in the latter they may represent the *sum total of the protection afforded.* Such partial immunity, as may at times be demonstrated following the administration of poliomyelitis vaccines, is probably humoral rather than cellular in nature, and since such humoral immunity may largely or entirely die out with the progress of time, the *durability* as well as the *degree* of such artificially induced active immunity seems open to question.

Department of Bacteriology.

BLOOD CULTURES IN BRUCELLA INFECTIONS (A NEW METHOD)[*]

By B. Stewart, M.A.[†]
B. Eddie, M.A.
F. Paxton, M.A.
and
K. F. Meyer, Ph.D.
San Francisco

During an epidemiological investigation it is very important that the nature of the Brucella infection of the patients be conclusively established. A correct differential diagnosis between the three types of infections, which may be due to Brucella melitensis, abortus and suis, without the isolation of the causative organism, is, as a rule, impossible. Some indication may be obtained with the aid of the agglutinin absorption test, but reliable information can be secured only by a detailed study of the bacteria isolated either from the blood, the urine, the spinal fluid or the suppurative lesions of the patients. It is quite generally believed that blood cultures, particularly in the abortus infections, are of little value, although the data in the literature do not entirely support this contention.

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[*] From the George Williams Hooper Foundation, University of California, San Francisco.

[†] Edith Claypole Fellow in *Pathology* for 1932-1933.

RECOVERY OF BRUCELLA MELITENSIS FROM THE BLOOD

According to Shaw (1905) and Gilmour (1906) Brucella melitensis has been recovered from the peripheral blood in 68 per cent of 148 Maltese cases studied. It is present as early as the second day of illness, and may be isolated from cases of nine and ten months' duration. With improved methods, this percentage has been increased and close to 90 per cent cultures have been secured by Duffau, Lisbonne, Zdrodowski and associates, and by Meyer and his associates, in typical Malta fever infections. Positive blood cultures are relatively easily secured from patients who obtained their infections through contact with hogs (Hardy and associates, 1931). On the other hand, it is generally admitted that human infections traced to cattle yield positive cultures in relatively rare instances. Probably the best results were reported by Kristensen, who isolated, during a period of nineteen months, the abortus type from the blood of twenty-one patients in a series of thirty-four. Weigmann had 5 or 6.9 per cent positive findings in seventy-two cultures; Silberstein obtained three cultures in 117 cases (2.5 per cent); Grilichess reports 7 or 8.7 per cent isolation in the course of eighty-eight attempts, and Schittenhelm found the organisms twice in the blood of seventy-one cases (2.8 per cent). More recently Fried (*Ztschr. f. Hyg. u. Infectionskrankh.*, 114:429, 1932) succeeded in isolating Brucella abortus from the blood of six patients in a series of nine. Meyer and Eddie have made the observation that Brucella melitensis and suis infections yield positive cultures when the patients are hospitalized, and samples of blood are repeatedly subjected to various methods of cultivation on different media. Yet, despite these ideal conditions, the few Brucella bovis infections so diagnosed on epidemiologic grounds have repeatedly failed to give positive blood cultures. These failures were in part responsible for a renewed study of the subject of blood cultures in undulant fever.

Several workers made the observation that cultures were more frequently obtained when the clots were held in the refrigerator for some time, or when the blood was greatly diluted (Olitzki and Gurevitch), or when citrated blood was centrifuged and the washed blood cells were streaked over agar (Orpen, *South African Med. Rec.*, 21:325, 1923). The studies of Shaw on quantitative bacteriological examinations of the blood of 103 Mediterranean fever patients (Reports, Mediterranean Fever Commission, Part 3, page 5, 1905) and similar investigations by Meyer and Eddie have shown that the Brucella organisms exist in the blood in relatively small amount. As a rule, only one to ten colonies appear on the agar slants seeded with 1 to 2 cubic centimeters of blood. It is, therefore, suspected that the bacteria are probably not in the plasma, but are phagocytized within the white blood corpuscles. That the phagocytic power of the granulocytes of undulant fever patients is greatly enhanced, even early in the course of the disease, is now fully recognized (Meyer, Stewart, Veazie and Eddie, Huddleson and others).

Thus far nothing definite is known relative to the time which the leukocyte requires to destroy the vitality of the ingested microörganisms. However, it has been experimentally shown that the bactericidal property of the whole blood, primarily dependent on the leukocytes, is greatly reduced by an exposure to a temperature of 56 degrees centigrade for fifteen to thirty minutes. It must be reserved for future studies to determine whether the complement or the phagocytes, or a combination of both, are affected by the exposure to heat, or by diluting the blood in broth, or by allowing it to clot. In any event the preliminary tests and theoretical considerations encouraged the ultimate aim to develop a simple procedure, which would enable a physician even in a rural community to collect a specimen of blood from a suspected case of undulant fever and forward it to a central laboratory for cultivation and identification of the Brucella types.

RABBIT MATERIAL USED IN THIS STUDY

Since human Brucella infections were not accessible, a series of tests were made on a series of forty-four rabbits which had been infected with a recently isolated human strain of Brucella abortus type suis (Dias strain). The blood was obtained by heart puncture. A part of the blood was cultured immediately on agar slants, while another portion was permitted to clot and was held either in the refrigerator for six days or at room temperature. Liver agar slants or broth media were spread with the clots. Finally 5 cubic centimeters of the blood was citrated and heated at 56 degrees centigrade. The data illustrating this experiment are shown in Table 1.

TABLE 1.—*Blood Findings in Experiment (44 Rabbits)*

Blood-clot		Ice Box		Fresh Blood		Inactivated	
Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
2	2	4	0	1	3	4	0
1	3	Not done	Not done	1	3	2	2
1	3	2	2	4	0	3	1
0	4	3	1	3	1	4	0
0	4	0	4	0	4	2	2
0	4	1	3	0	4	0	4
0	4	0	4	0	4	1	3
0	4	0	4	0	4	0	4
0	4	0	4	0	4	0	4
0	4	0	4	0	4	0	4
2	2	4	0	1	3	0	4
6	38	14	26	10	34	(16)	28

TABLE 2.—*Summary of Clinical Observations*

			Serologic Tests			Blood Culture				
								Citrated-Heated Blood		
Patient	Occupation	Approximate Day After Onset	Agglutination	C. F.	Phagocytic Index	Brain Broth	Liver Agar Slant	On Liver Agar	Incubated (+ Days)	Type of Brucella
1. Chil.	Confectioner	60	10,240	+	10.2	0	0	+ (13th day)	......	*Bovis*
2. DeB.	Packing house	12	2,560	+	6.0	+ (10th day)	+ (15th day)	......	......	Suis
3. McF.	Packing house	30	5,120	+	12.0	0	+ (10th day)	......	......	Suis
4. L. W.	Packing house	60	10,240	+	......	......	......	......	+ (64th day)	Suis
5. McN.	Packing house	76	5,120	+	......	......	......	......	+ (64th day)	Suis
6. V.	Packing house	19	5,120	+	10.4	0	+ (5th day)	+ (14th day)	......	Suis
7. Alex.	Packing house	10	1,280	+	5.6	+ (5th day)	+ (5th day)	+ (5th day)	......	Suis
8. H.	Milk handler	32	1,280	+	......	......	0	+ (13th day)	+ (13th day)	*Bovis*
9. DeL.	Packing house	36	2,560	+	12.4	+ (65th day)	0	0	+ (60th day)	Suis
10. D.	Packing house	21	2,560	+	7.4	+ (14th day)	0	......	+ (14th day)	Suis
11. M.	Packing house	26	1,280	+	6.9	0	0	0	+ (9th day)	Suis
12. Mem.	Dairyman	60	5,120	+	3.2	0	+ (10th day)	......	+ (60th day)	*Bovis*
13. McPh.	Laboratory worker	4	320	+	9.0	0	+ (3rd day)	+ (3rd day)	......	Melitensis
14. H.	Packing house	6	1,280	+	......	0	+ (6th day)	......	......	Suis

The highest percentage of positive cultures was obtained in the tubes seeded with the inactivated blood. The media inoculated with the blood-clot held in the refrigerator furnished cultures in a slightly lower percentage. Similar findings were recorded in the course of fifty-four routine cultures prepared with the blood of goats injected with various Brucella strains. The inactivated blood of an animal infected with an abortus strain yielded cultures on the thirty-fourth and forty-ninth day after injection. In fact, the unheated blood specimens produced three, while the heated gave seven cultures. Growth was secured simultaneously from the heated and unheated samples of blood in two instances only.

These methods have been successfully used by Dr. C. M. Haring, division of veterinary science, University of California, in the cultivation of Brucella abortus from the blood of infected cattle.

CLINICAL STUDIES

During the past ten months the same principles were *in toto* or in part applied to the clinical study of Brucella patients in the University of California Hospital, or to cases which were observed in other parts of the State. The significant data dealing with these studies are shown in Table 2.

The results surpassed all expectations. As already stated, Brucella bovis infections, although suspected in the past on account of their history, failed to yield positive blood cultures. In a series of sixteen patients, two furnished typical Brucella abortus type bovis cultures in the citrated and heated blood, and one by spreading the blood on liver agar slants. The unheated blood of the same patients enriched in brain broth remained sterile. Equally conclusive were the results obtained on the blood specimens secured from slaughterhouse employees and one laboratory worker. Despite a high agglutination titer and high phagocytic index, cultures were obtained as late as the seventy-sixth day after the onset of the disease. In fact, this series of blood cultures on sixteen patients yielded positive results in fourteen, or 87.5 per cent. There is no definite relation between any chronological stage of the fever and the presence of the Brucella organisms. They may be present early and late in the disease. Furthermore, it was clearly shown that citrated and heated blood may be collected and sent to the laboratory for further analysis. However, it is important to make transplants from the citrated and heated blood for at least fifty to sixty days.

Recently Massa and Battistini recommended the use of "Liquoide" "Roche" (sodium polyanetholsulphonate), a new anticoagulant and powerful agent destroying leukocytes, but not bacteria. This preparation has proved very valuable in a few preliminary tests, and deserves further experimentation in blood-culture work.

Should the blood cultures, irrespective of the improved technique, remain sterile, it is strongly recommended to culture the urine. In a patient suffering from a pyelonephritis and cystitis, with an agglutination titer of 1:80 and a phagocytic index of 8, the sediment of 10 cubic centimeters of urine yielded six Brucella abortus type suis colonies on blood agar plates. A melitensis infection of eleven months' duration was proved by the isolation of the specific organism from the urine.

PROCEDURE IN PREPARATION OF BLOOD CULTURES

As an aid in preparing blood cultures on undulant fever patients, the following procedures are herewith recommended:

1. *Citrated and Inactivated Blood.* — Prepare and keep on hand sterile, medium-sized Pyrex test-tubes containing 0.1 to 0.2 cubic centimeters of a sterile 20 per cent solution of sodium citrate or 1.0 cubic centimeter of a 1.6 per cent sodium citrate in 0.85 per cent salt solution. The tubes are closed with rubber stoppers. For the blood culture withdraw 5 to 10 cubic centimeters of blood aseptically from a vein and mix it thoroughly with the citrate solution. Transfer the tube with the citrated blood to a water bath registering 56 degrees centigrade. Hold the tube at this temperature for fifteen minutes. Subsequently, remove 0.5 to 1.0 cubic centimeter of the liquid blood, and spread over large liver agar slants. Part of the tubes are sealed, part held in jars under 10 per cent CO_2, and the remainder is left aerobically. All tubes, together with the unused portion of the citrated-heated blood, are held at 37 degrees centigrade. At regular intervals liver agar slants are inoculated by means of a loop from the citrated blood tube. Growth may be noted in from three to forty days. The slants, which reveal growth, are put through the usual tests (agglutination, dyes, H_2S and nitrate reduction). It is advisable to incubate the blood tubes for at least two and one-half months.

2. *Blood Treated with "Liquoide."*—Prepare and keep on hand sterile Pyrex tubes containing 2 cubic centimeters of a 1 per cent aqueous solution of "Liquoide" (Hoffman-LaRoche, Nutley, New Jersey). In preparing blood cultures, place 10 cubic centimeters of blood aseptically into the tubes, seal with a rubber stopper, incubate at 37 degrees centigrade for ten to thirty days, and prepare transplants on liver agar as under "1."

Tubes and solutions suitable for this type of blood culture will be furnished upon request by the George Williams Hooper Foundation, Medical Center, San Francisco.

Third and Parnassus Avenues.

THE DEVELOPMENT OF PSYCHIATRY*

By H. Douglas Eaton, M.D.
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Mind illness is mentioned in our earliest records. Ulysses was said to have feigned madness to avoid military service. David "scrabbled on the doors of the gate and let spittle fall down his beard" to avoid being held captive by the king of Gath. Saul is recorded as having recurrent depressions ten centuries before Christ.

Among the early primitive peoples, disease and particularly mental disease, was regarded as the caprice or design of some supernatural being, the vengeance of an offended deity, or as a punishment for sin. At a little later period all morbid conditions were believed to be brought about by the agency of evil spirits. Treatment endeavored to propitiate the demons or spirits and to win the favor of benevolent gods. Thus, ceremonies of various sorts with magical accessories came into existence. History relates the common practice of such procedures in India, Egypt, Babylonia, Assyria, Phoenicia, and Greece. Later shrines were set up as an outgrowth of these ceremonials, and treatment came into the hands of priests who also acted as physicians. Many of these shrines were formed about medicinal springs, and the fragmentary records available indicate that the therapy given compared not unfavorably with that of the present day.

THE PRIEST-PHYSICIAN OF THE GRECIAN CIVILIZATION

Greece reached the highest development of the priest-physician in the worship of Aesculapius, and in one of these centers Hippocrates was taught. Although Homer described mental illness about 1000 years before the birth of Christ, and writings indicate that mentally sick patients were treated in Greek temples some 300 years later, Hippocrates must be given the credit for first declaring, about 400 B. C., that mental disease is a physical disease of the brain, due to natural causes, and not to divine influence; a belief to which we still subscribe, though we cannot always demonstrate its truth. Hippocrates described mania, melancholia, paranoia, and phrenitis in detail; conditions probably corresponding to what we now call states of excitement, depressions, mental deterioration, and toxic infectious deliria.

Plato's writings, produced about 380 B. C., showed a grasp of psychiatry, especially of mental hygiene, more advanced than what we are prone to speak of as modern thought. Eugenics—child guidance and training—education, even psychoanalysis, Plato suggested and outlined them all. "Education should begin before birth. Therefore no man or woman shall procreate unless in perfect health; a health certificate is to be required of every bride and groom. Men may reproduce only when they are above thirty and under forty-five; women only when they are above twenty and under forty. Offspring born of unlicensed matings, or deformed, are to be exposed and left to die. Before and after the ages specified for procreation, mating is to be free. We grant this permission with strict orders to the parties to do all in their power to prevent any embryo from seeing the light; and if any should force its way to birth they must understand that the offspring of such a union cannot be maintained, and they must make their arrangements accordingly. Marriage of relatives is prohibited as inducing degeneration." Again, "Send out into the country all the inhabitants of the city who are more than ten years old and take possession of the children who will thus be protected from the habits of their parents." "Education shall be free to all," and finally, as well as psycho-analytically, "Certain of the unnecessary pleasures and instincts are deemed to be unlawful; every man appears to have them, but in some persons they are subjected to the control of law and reason, and the better desires prevailing over them, they are either wholly suppressed, or reduced in strength and number; while in other persons these desires are stronger and more abundant. I mean particularly those desires which are awake when the reasoning and training and ruling power of the personality is asleep; the wild beast in our nature, gorged with meat and drink, starts up and walks about naked and surfeits at his will; and there is no considerable folly or crime, however shameless or unnatural, not excepting incest or parricide, of which such a nature may not be guilty. In all of us, even in good men, there is such a latent wild beast nature which peers out in sleep." Sublimation, libido, repression, the edipus complex, the censor—all are there.

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* Chairman's address, Neuropsychiatry Section of the California Medical Association, at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

The epoch of Galen, terminating about 200 A. D., saw the end of advancement along medical lines by the older civilizations. There was a reversion to superstition, magic, and supernaturalism, which gradually dragged the mentally sick into an abyss of cruelty and torture, from which they were not rescued until the nineteenth century. In the early centuries of the Christian era the insane were treated with reasonable kindness; indeed in 310 A. D., a hospital for mental illness was actually established at Byzantium. However, by the tenth century, largely through the teaching of the church, the belief became prevalent that those possessed by demons should be strenuously treated, bringing imprisonment and torture into vogue. Egypt still held true to its former culture, resulting in 1250 A. D. in the admission of the mentally sick to a general hospital in Cairo.

THE WITCHCRAFT PERIOD

The fifteenth century, to be regretted as the age of witchcraft when mental illness was believed to indicate a league with the devil, yet gave birth in 1425 to occupational therapy—an invaluable gift to the mentally ill.

In the sixteenth century a wave of jumping, dancing and convulsive disorders—many undoubtedly hysterical in character—swept the world. The same period heard Charles V order the evidence of physicians in doubtful cases of insanity, and saw the gradual turning over of the care of the insane to public authorities—a change which did not improve their condition.

THE FORWARD STEPS IN THE SEVENTEENTH AND EIGHTEENTH CENTURIES

The seventeeth century added its quota of progress, including the establishment of the first hospital for mental cases in America, the Hôtel Dieu in Quebec; the description of general paresis by Thomas Willis; of dementia praecox, acute mania, the epileptic personality, and hysteria, by other writers; and the abolishment of witchcraft by Louis XIV.

The plight of the psychopathic patient still remained deplorable, until the middle of the eighteenth century, when a gradual swing to medical care was evidenced by the establishment of St. Luke's in London in 1751, followed two years later by the first lectures on mental diseases given by William Battie, also in England.

In this country the Pennsylvania hospital commenced to receive mental cases in 1752, followed by the establishment of Bloomingdale as the psychiatric department of the New York hospital in 1771. Italy abolished the use of chains to control the insane in 1788.

The last ten years of the century were epochmaking. Pinel, in France, succeeded in freeing mental cases from dungeons and chains while inaugurating rules for the treatment of mental defectives still basically sound and complete. England continued her progress toward the light by the establishment of York Retreat through the efforts of a quaker, William Tuke. Here kind and humane treatment of the insane, the so-called moral treatment, was established.

Eighteenth century psychiatry was founded largely on nebulous philosophic speculations. The popular physical theories attributed mental illness to yellow or black bile and to heat in the dog days. Symptoms were regarded as causes to be treated by medication. Patients who did not react promptly to such drugs as opium, camphor, and belladonna were considered hopeless.

The nineteenth century was an age of truly great advance and accomplishment. Benjamin Rush, called the father of American psychiatry, and William Ellis, who established systematic occupational therapy on a firm basis, graced the opening years. New institutions were established, as McLean at Waverly, Massachusetts, the Hartford Retreat in Connecticut, and in 1832 the first state hospital at Worcester, Massachusetts, followed eleven years later by the Utica State Hospital in New York. In this latter institution, in 1868, was inaugurated the first scientific research into the causes of insanity. England, largely through the efforts of Gardener Hill, abolished restraint, while psychiatric clinics came into being in Germany.

THE NINETEENTH CENTURY

The closing years of the nineteenth century, as in the eighteenth, were replete with psychiatric progress. Germany took the lead abroad with the establishment of a psychiatric hospital at Heidelberg, and Guesinger published his book on the "Pathology and Therapy of Psychic Disorders." The names and accomplishments of Meynert, Wernicke, Kraeplin, Bleuler, Krafft-Ebing, Freud, Jung and, in this country, of Adolf Meyer, are still fresh in our memory. The labors of these men and others resulted in a new era in institutional care of the insane and in the development of the new fields of mental hygiene and child guidance. May I recall to your minds, in passing, the great service rendered to psychiatry by two lay workers—Dorothea Lynde Dix, who did so much to improve the conditions of the insane in the middle of the nineteenth century, and Clifford Beers, whose memorial is the Society for Mental Hygiene.

Theories of mental illness starting as mystical supernatural conceptions, reached a much higher level under the teachings of Hippocrates only to fall again into a long period of ignorance and superstition. Mental diseases, because of their character, fell more readily under the dominance of religion and took longer than physical diseases to escape this control. During the nineteenth century, psychiatry progressed from a vague intangible condition to a definite clinical and pathological study, the most rapid progress taking place in the closing years. This development and growth advanced by stages. At first, efforts were aimed at benefiting the institutional conditions of the insane, combined with efforts to protect them and the public legally. Then came a period of etiologic theorizing, later linked to a cellular biologic hypothesis and correlated with other sciences. This in turn was followed by an increasing interest in the history of the patient and in the history of his reactions. Further growth resulted in a combination of mass and individual treatment, to be followed shortly by psychopathology and Freud, in conflict and contrast with the prognostic, nosologic school of Kraeplin. Finally, the study and recognition of constitutional types and reaction sets, interpreted from a biologic standpoint with the interpretation controlled by a critical common sense, led up to our present conceptions.

PSYCHIATRY OF TODAY

The psychiatry of today is predominantly psychobiologic and dynamic in viewpoint. It studies the individual from the physiologic, physiochemical, individual, and social standpoints, basing its conclusions on all of these factors. Modern psychiatry is dependent on a comprehensive knowledge of the human organism and of its functioning in its complex personal and social relationships—past, present and future, objective and subjective. Psychiatry, in a word, is the study and treatment of all abnormal conditions in which are involved man's behavior and mentation. The competent psychiatric diagnosis must evaluate and determine the relative importance of structural, functional, somatic, constitutional, psychogenetic and social environmental factors.

The ideal psychiatrist of today should have a basic training in the general practice of medicine, with additional time spent in the study of the anatomy, physiology and pathology of the central nervous system and in the active practice of psychiatry. The results of research along social, environmental, economical, educational and behavior lines should be utilized. Such workers will undoubtedly increase tremendously our knowledge of the causes and therapy of mental disease.

PSYCHIATRY WORK IN CALIFORNIA

Conditions in California fall somewhat short of the ideal conception of psychiatric work we have just developed. "Angelus Temples" heal the sick, or so it is said, naturopaths diet the psychopaths, physically and financially. As a State we are overridden by cults and cultists with their modern shrines and idols.

Eugenically speaking, we are accomplishing a little with sterilization and our mothers' clinics, yet this little is but a drop in the bucket in handling the problem confronting us. We may claim credit as a State that we have sterilized more cases than any other.

Our laws for the handling of mental illness are archaic and indefensible. The absurdity of a jury trial as the final test of a person's sanity should be as evident to all as would be determining whether to operate on a case of appendicitis or not in a like manner. The spectacle of a judge of the Superior Court standing gingerly in the doorway of a completely confused, disoriented and disturbed patient's room, and carefully reading to said patient a legal rigamarole, would be humorous if it were not pathetic. This procedure is undoubtedly foolish, but not as harmful as forcing the less excited and more rational patient to be accused of the crime of insanity in person by his next of kin. The legal formalities must be observed, but, surely, carrying legal procedures out in the manner just outlined is letting the tail wag the dog. In many eastern states such methods have been in the discard for years, with greater protection of the patient. The proposed changes in our commitment laws should receive the earnest support of us all.

Due primarily to overcrowding in the State institutions in the South, and to the hope that a certain percentage of cases might be rehabilitated without commitment, a psychopathic parole system has been developed here which has some definite disadvantages. These criticisms may be summed up by pointing out that this work is not under the supervision of a psychiatrist, and the personnel is not adequately trained in psychiatric work.

Diagnosis and therapy of psychiatric cases would be greatly aided if facilities for their care in general hospitals were increased. Study of every psychiatric case from the standpoint of internal medicine is essential. Such a study can best be carried out in connection with a general hospital or by the completely equipped neuropsychiatric hospital. An increase of adequately equipped private sanatoria is also needed, especially here in the South.

Accommodations for the care of patients in the State hospitals should be largely increased. The creation of a State psychiatric institute, centrally located, where the clinical and research work of the various State institutions could be correlated and directed, as well as developing its own lines of research and teaching, would be of tremendous value and undoubtedly would pay for itself in time. The further growth of psychiatry depends on continued efforts along educational, medical, and medico-legal lines.

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RAPIDLY DEVELOPING CATARACTS AFTER DINITROPHENOL

By W. W. Boardman, M.D.
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Discussion *by Wilber F. Swett, M. D., San Francisco; Hans Barkan, M. D., San Francisco; Kaspar Pischel, M. D., San Francisco.*

THE dictates of fashion, as well as the recognition of the morbid states frequently associated with chronic obesity, have created in both physician and patient an interest in the causes and methods of controlling this condition. Many theories have been suggested, but, in the final analysis, obesity results from an excess of food intake over the caloric demands. In many this is obviously due to excessive food intake, but in others there seems to be some definite metabolic disturbance, sometimes connected with a recognizable endocrine dysfunction, but at other times not associated with any as yet recognized endocrine disorder. The recent work of Blotner on the cholesterol curves following the ingestion of a fatty meal, and the influence of insulin and posterior pituitary extract on these curves, seemed to suggest an answer to many of our questions. However, much confirmatory work is still necessary and, judging from our recent failure to confirm Blotner's work, the problem is much more complicated than would appear from his report.

The fundamental principle in the treatment of obesity is to have the caloric intake less than the caloric demands. This goal may be reached by decreasing the food intake to the required point, or by increasing the metabolic demands. The former objective may be safely attained by a strict, but properly balanced ration. The metabolic rate may be increased by increased muscular work, by endocrine preparations—especially thyroid and posterior pituitary—or by certain drugs.

The endocrine preparations frequently give brilliant results, but at times have proved unsatisfactory because of unpleasant reactions, the difficulty, inconvenience, and expense of hypodermic administration, etc.

Of the drugs, dinitrophenol, as suggested by Doctors Cutting, Mehrtens, and Tainter in 1933 (*Journal of the American Medical Association*, July 15, 1933), seemed to answer the necessary requirements; it was capable of oral administration, it produced a marked increase in the rate of metabolism, and, after careful animal and clinical study, it seemed to be free from serious deleterious effects upon the human organism when given in properly controlled doses. The drug rapidly gained wide acceptance as an aid in the treatment of obesity, as it was possible, in the average ambulatory patient, to obtain by diet and dinitrophenol a weight loss of two or more pounds per week. This loss was sufficient to encourage the majority of patients to persevere later with dietary restrictions alone. A few adverse reports appeared, but these were apparently satisfactorily explained on the basis of excessive dosage or unusual idiosyncrasy. In a recent study by Strang and Evans, although they advise against the use of dinitrophenol on the grounds that in their hands it had proved of little aid, they state that "no symptoms other than cutaneous were noted that could consistently be attributed to the use of the drug."

Thus, after at least a year and a half of widespread use, dinitrophenol had apparently established itself as a safe metabolic stimulant and, to many, as a valuable aid in the treatment of the chronically obese. However, recent events have thrown grave doubts on this conclusion, and further laboratory study is demanded before continuing its clinical use. In the last month, ten cases of rapidly developing cataract in women under fifty have come to my attention, seven occurring in San Francisco and three in Oakland.

The eyes have been examined by a number of oculists—Doctors W. D. Horner, Hans Barkan, Kaspar Pischel, F. J. S. Conlan, W. F. Swett, and others. They all agree that the condition is most unusual, occurring as it does in relatively young women and progressing with the utmost rapidity; in two cases to complete blindness within one month.

The cases have been treated by various clinicians, and the only apparent common factor has been the ingestion of dinitrophenol. The majority of these patients have been on restricted diet, and it might be suggested that some deficiency was the exciting factor. However, in the experience of the oculists mentioned, such lens changes have not been encountered from dieting alone. Another peculiar factor is that in two of these cases the clinical evidence of disturbed vision did not manifest itself for ten to twelve months after the drug had been discontinued, but then showed rapid progress. No connection can as yet be established between the occurrence of these lens changes and the total duration of treatment, the daily maximum dose, or the total dosage.

Although it is evident that the relationship between the drug and the lens changes has not been proved, it is equally evident that until all doubt is removed dinitrophenol should not be prescribed.

490 Post Street.

DISCUSSION

Wilber F. Swett, M. D. (490 Post Street, San Francisco).—The recent development of rapidly maturing cataracts in relatively young women who have been using dinitrophenol confronts us with a difficult problem to solve.

The clinical course of these cases has been very similar, and the lens shows a very rapid swelling and iridescent appearance which are like those changes seen in certain diet deficiencies. A period of eight to ten months has elapsed from the time the dinitrophenol was discontinued and the cataracts have developed, which makes it difficult to believe that the drug has played any part.

The patients that I have seen personally have impressed me as having definite signs of endocrine disturbance, and I feel that there must be conditions present other than the effect of dinitrophenol itself. Most of these persons, consciously or subconsciously, have remained on limited diets, so it may well be a deficiency in vitamins A or G, or both, or an upset in the calcium metabolism due to parathyroid dysfunction. Which of these factors or combination of factors is responsible, is impossible to say at this time.

It is possible that the increased metabolism following the use of dinitrophenol upsets the balance of the endocrine functions in patients which are already borderline endocrines, and probably precipitates the parathyroid dysfunction or results in the insufficiency of vitamins A and G in the system. However, I agree with Doctor Boardman that its use should be discontinued until we ascertain the part played by dinitrophenol in this curious chain of circumstances. It would be well to discover what type of patient is sensitive to dinitrophenol and what part it plays in the metabolic dysfunction causing the lens changes.

There is no experimental data published to date which would indicate that dinitrophenol could cause the development of cataracts even after prolonged administration. It is interesting to note that during the latter part of the War, when both the French and United States Governments were manufacturing dinitrophenol on a large scale as an explosive, that many of the workers showed toxic symptoms and became very emaciated; but there is no record of development of cataracts in any of these men.

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Hans Barkan, M. D. (Stanford University Hospital, San Francisco).—Within the last two months I have seen seven patients with cataracts, who form a definite clinical group such as has not appeared before in my practice. This group has as a clinical entity the following characteristics: They are women, aged from forty-five to fifty-five; they have all been obese and have lost from forty to sixty pounds within the last year; they have all taken dinitrophenol; they all state that up to two or three months ago their vision was unimpaired; they all state that within two or three months after stopping dinitrophenol they noticed a rapid decrease of vision; five of the seven had to be led into my office, although a month ago they were able to walk around alone. The cataracts which they all have are bilateral, of a gleaming silk, bluish appearance, the lens markedly swollen, the anterior chamber shallow.

In two cases the swelling was so acute and marked that there was a paresis of the sphincter of the pupil from the pressure with, consequently, large pupils. I have operated on two such patients; in both, the lenses were soft, coming out as a bag, and in one a small amount of iris pigment drained out with the aqueous, somewhat as in a diabetic cataract. In both, the zonule was remarkably brittle for the age of the patient. There were no other ocular lesions. The capsule of the lens may have been rendered permeable to the aqueous, and inhibition of the aqueous by the lens fibers has rendered the lens cloudy. In just what way dinitrophenol directly or indirectly influences this process I feel we are not in a position to state at present. The cases, however, are such a marked clinical group that the term "dinitrophenol cataract" would naturally be applied to them; naturally, also the use of dinitrophenol should be stopped.

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Kaspar Pischel, M. D. (490 Post Street, San Francisco).—I would like to refer the reader to the accurate description of this unusual formation of cataract by Dr. W. D. Horner in *The Journal of the American Medical Association,* July 13, 1935, page 108.

As the formation of these opacities in the lens is probably only the local reaction of general degenerative disturbances brought on by dinitrophenol, it seems to me interesting and reasonable to try to counteract this chemical by the use of hormone preparations of the internal secretion glands. Several years ago Siegrist of Bern, Switzerland, reported favorable results in beginning cataract from the use of paraphakin (euphakin). Doctors Kerr, Hosford, and Shepherdson of the department of medicine and ophthalmology, University of California, reported favorable results with thyroid gland preparations. Besides, local stimulation of the circulation by the use of dionin, glycerin, or subconjunctival salt injections, might be beneficial.

REGULATION OF PROFESSIONS BY THE STATE*

THE RIGHT TO REGULATE, REASONS THEREFOR, METHODS IN USE, AND ATTITUDE OF REGULATORY BODIES AND THE COURTS, WITH RELATION THERETO

By Lionel Browne, Esq.†
San Francisco

TODAY most people accept regulation, rather than concern themselves with the reasons for it. Yet our complex civilization continues to exist because of regulation and not, as many persons sometimes suspect, in spite of it.

A wise English statesman once said, "Nothing is law that is not reason"; and, consequently, to find our law, we must go deeper than the law or regulation, and seek the reasons and causes for it.

In the beginning there were no physicians: each man was his own. Because of abuses by stronger men, weaker ones banded together for mutual protection. Seeking protection from animals and invaders, every member of a tribe had to surrender, for the good of all, some right or privilege that had been his. Each had to dedicate a portion of his time and service, that he might in turn receive benefits and advantages that might not otherwise be his.

One of the highest forms of this service was that of a warrior, one of the lowest, the tiller of the soil. Both were important in the scheme of things, for without the tiller of the soil the warriors could not eat, and without the warrior these early peoples could neither defend themselves nor conquer their enemies.

Some persons had more success than others in treating wounds, administering to ailments and the like, and gradually assumed a preferred position in the scheme of things; for by their efforts the warriors and men of the field were kept in better health, and so able to take their part in the society of that day.

THE DOCTOR IN HISTORY

The first physicians did not labor in the fields; they received their food and shelter, had leisure, and certain advantages perhaps culminating in their being the artist or historian of the tribe, but they were not, even at that early date, in business for themselves. They had advantages not enjoyed by others, but their greater right was the right to serve their tribesmen in times of illness and distress. (The Doctor in History.)

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* Read before the general meeting of the California Medical Association at the sixty-fourth annual session, Yosemite, May 13-16, 1935.

† Deputy Attorney General of the State of California.

If, perchance, they did not serve their tribesmen when demanded or effectually, their right to practice was sometimes suspended and often revoked.

Revocation was generally followed by a funeral ceremony.

Hence we may say that the practice of medicine now is and always has been the subject of some character of regulation.

PRESENT-DAY TYPES OF REGULATION

Today there are two types: First, regulation from within the profession, and second, regulation from without the profession.

The first type is the ethical character of regulation. It comes from the licentiates themselves, ordinarily being confined to medical associations or societies. These associations are the outgrowth of those primitive orders of physicians who, for their own protection, guarded their orders so jealously. They were forced to do this, for the earliest of medicine men had to be successful. When disease, famine, flood or drought visited a tribe, the medicine man was held responsible; and unless fortune favored him or he could explain his failure, he too often paid for failures with his head. (The Doctor in History.)

This ethical type of regulation continues, but its punishment for infractions of ethics is, in the main, limited to expelling a member from a society or curtailing privileges extended to members in good standing.

With the character of regulation just referred to, the state is in no way concerned.

REGULATION IS AN EXPRESSION OF THE POLICE POWER OF THE STATE

Regulation from without the profession is, however, another matter. This regulation comes from the State and is exercised under the police power, the health branch of that power being the most extensive known to the law. Though many people think a certificate authorizing them to practice medicine and surgery is a grant of a privilege for the peculiar benefit of the holder, nothing can be farther from the theory underlying the granting of a license.

The right to practice medicine is a right to protect society, to aid the sick and afflicted, and to assist in the advancement of the health and well-being of those persons who make up the body politic which grants the privilege.

The certificate is the method whereby the State indicates to its people that the individual possessing the same has successfully completed such a character of training as would indicate a qualification to be a benefit, rather than be a menace to humanity.

RIGHT TO PRACTICE IS A VALUABLE PROPERTY RIGHT

Once received, the right to practice a profession is a valuable property right, but this does not mean that it cannot be taken away.

It may be lost for a violation of the law under which it was given, or may be summarily taken away by legislative action.

Regardless of whether the thought might be a popular one, the legislature has the right to say that from and after a certain date all licenses to practice medicine shall be canceled. Indeed, in several states of our Union, legislatures have already done so, and have required those who desired to continue in the practice to requalify by taking other examinations and by resubmitting preliminary medical qualifications to a new board of examiners. I have said that such action was constitutionally permissible, but I do not wish to indicate that I think it, either at this time or hereafter, probable.

In earlier days physicians were, in many states, permitted to practice by merely presenting a medical diploma to some authorized agent of a local or state health department. Not always was the training afforded in some of these medical schools of the duration, the kind, or the character sufficient to train the bearer to administer to the ills of humanity. Not always was the college in existence. In other instances, unscrupulous public officials had sold medical licenses, and the laws requiring reëxamination as to qualifications and resubmission to examination have invariably been sustained upon the theory that drastic remedies are required to cure drastic administrative evils. (State vs. Webster, (Ind.), 50 N. E. 750.)

OLDEST WRITTEN CODE OF LAWS PROVIDED FOR REGULATION OF MEDICAL PRACTICE

The character of regulation enforced by the State is not new. The oldest written code of laws in the world was promulgated by Hammurabi, King of Babylon, Before Christ, 2287-2232. Certain sections are of interest:

> "215. If a doctor has treated a gentleman for a severe wound, with a bronze lancet, and has cured the eye of the gentleman, he shall take ten shekels of silver." (One shilling—62½ cents.)
>
> "216. If he (the patient) be the son of a poor man, he shall take five shekels of silver.
>
> "217. If he be a gentleman's servant, the master of the servant shall give two shekels of silver to the doctor.
>
> "218. If the doctor has treated a gentleman for a severe wound, with a lancet of bronze, and has caused the gentleman to die, or has opened an abscess of the eye for a gentleman, with the bronze lancet, and has caused the loss of the gentleman's eye, one shall cut off his hands."
>
> "219. If a doctor has treated the severe wound of a slave of a poor man, with a bronze lancet, and has caused his death, he shall render slave for slave."

May I ask that you note that the forfeitures so referred to those 4,220 years ago were even then of a character calculated to prevent medical mistakes, and so secure better treatment for the Babylonian public. Today the law is the same.

REGULATION OF MEDICAL PRACTICE IS A STATE, AND NOT A FEDERAL RIGHT

The Supreme Court of the United States, in the leading case of *Dent* v. *West Virginia*, 129 U. S. 114, held that no one has a vested right to practice medicine free from state regulation and control.

This should be interesting to you, for it indicates that your greatest privilege comes from the State, and not from the Federal Government. Indeed, about 95 per cent of everything that you do is regulated by the State. About the only federal police power governing physicians is that concerning the prescription and dispensing of narcotics, and a violation of this law of itself can only result in punishment for the commission of a crime. The Federal Government cannot take disciplinary action against a physician. Not having jurisdiction to grant a license to practice a profession, it has no jurisdiction to suspend or revoke one.

This does not mean, however, that the State cannot make the violation of a federal statute a basis for revocation under the state law. Many states, including our own, do so.

I have stated that the State has the power to regulate professions. The exercise of that power is ofttimes confusing to members of the legal, let alone the medical, profession. For that reason I shall try to briefly tell you why some things concerning the right to practice a form of the healing arts can be done, and why some cannot.

A state, on entering the Union, accepts for its primary law the Constitution of the United States. As to anything not therein limiting the State, the latter is paramount.

The State then adopts its Constitution, which governs every field of human endeavor and relationship, except as that field has already been covered by the Federal Constitution.

The people of the State can then enact any law, if the right to do so be not denied to them by the two constitutions mentioned.

HOW LAWS MAY BE ENACTED

There are ordinarily two methods whereby the people may exercise this privilege; the first is by their voting privilege, and the second by electing legislators to enact laws within the permitted field.

The reserved power of the people is not of uniform strength, the ballot taking precedence over the legislative act, unless the act adopted by the ballot reserve to the legislature the right to change it thereafter.

To be concrete: the State Medical Practice Act is an act of the legislature; the Chiropractic Initiative, an act of the people.

Hence, the legislature can do nothing to in any way interfere with or redefine chiropractic, while it can adopt any reasonable measure regarding the practice of medicine.

The Chiropractic Initiative can be changed only in the manner of its adoption—by another vote of the people. As a practical matter, it is about as easy to change an Initiative Act as it was to repeal the Eighteenth Amendment.

This is not so with the Osteopathic Act, which specifically granted to the legislature the right, with certain exceptions, to change its provisions.

RIGHT TO REGULATE PRACTICE COMES FROM RIGHT OF THE PEOPLE TO PROTECT THEMSELVES

I have before indicated that the right to regulate all branches of the healing arts comes from the right of the public to protect themselves from being mistreated or misled by incompetent or unscrupulous practitioners. (*State* v. *Armstrong,* 38 Idaho 493, 225 Pac. 491.)

The principal methods of regulation are three in number. All seek to prevent wrongs to the people. The first is the endeavor by the State, through its duly appointed examining board, to regulate licentiates. The second, the endeavor by the State—usually at the behest of the examining board—to regulate (in the courts) those not possessing licensure, by the visitation of punishments, if they are practicing without a license. The third method is to petition a court of equity for an injunction to force the discontinuance of the unlawful practice.

Each method is effective and each is necessary.

As regards the Board of Medical Examiners, it can be said to be composed of the finest representative men in the profession. They administer the provisions of the Medical Practice Act as sane and sensible men should.

CAUSES FOR DISCIPLINE IN THE CALIFORNIA MEDICAL PRACTICE ACT

Though there are approximately thirty-three causes for discipline listed in the Medical Practice Act, but five or six offenses seem to appear and reappear before the Board. Upon proper notice, a reprimand, a suspension, or a revocation of license, may be visited upon a practitioner. The Board is not charged with the strict taking of evidence, as in a court proceeding, and cannot be confounded by an involved medical explanation, as can a jury.

For example, the commission of a criminal abortion is a crime, as well as a cause for discipline. The jury may acquit the abortionist in the criminal case, but the defendant cannot often explain his medical tactics to the members of his own profession that constitute the Board.

False advertising, in particular, is not approved. If it has a tendency to impose on credulous persons, and so be harmful to public morals or safety, it warrants disciplinary action. Advertising of the come-on variety is receiving stern treatment at the hands of appellate courts, in which a review is generally sought by one disciplined. In the past a specialist has always had a greater liability in an action for the recovery of damages than has a general practitioner, and the present tendency of the courts seems to favor applying the same doctrine to the advertiser.

Hence, if a person advertise that he is a specialist, or that he has done certain things, or has certain qualifications, it is to his own interest that the statements be true.

One court recently said:

> "The defendant is not tried on the advertisement alone, but on the advertisement and his capacity and

qualification to fulfill it. In such trial a proper line of proof is not only the advertisement, but the competence of the defendant to do what he advertises he can do. The action then becomes like that in getting money by false pretenses, which no Legislature has ever been required to define. The crime is determined not from the representations alone, but from all the actions and circumstances in which intent can be gathered." (*State* v. *Jordan* (Wash.), 158 Pac. 982.)

The respect that appellate courts have for the findings of board members is based upon the realization that the members thereof are more competent to judge certain types of medical testimony than is one of the legal profession.

One court stated:

"We must accept the finding of the medical board, and the trial court should have accepted it as a verity, that respondents' conduct bore such an intimate relation to the public health and public morals as to justify the finding that the respondents' conduct was unprofessional and dishonourable." (*State* v. *Spears* (Colo.), 247 Pac. 563.)

In another case:

"The board of medical examiners consists of reputable physicians appointed by the Governor. They are supposed to know better than laymen the ethics of their profession and what constitutes reprehensible conduct that unfits one to engage or continue in the practice of medicine, but an average layman, we apprehend, would not experience much difficulty in arriving at the conclusion at bar." (*Doran* v. *State* (Colo.), 240 Pac. 335.

FUNCTIONS OF THE MEDICAL PRACTICE BOARD

So much for that character of regulation that the State accords to its professions. But I would impress upon you that the Board of Medical Examiners is a State board to render service to you and to the general public. Do not ask it questions as to what to do if you cannot collect a bill or if you are sued, but do not hesitate to ask it any questions concerning the proper practice of medicine. The Board may be addressed at Sacramento, San Francisco or Los Angeles, and will reply to your inquiry, seeking, if necessary, the advice of the Attorney-General.

I state to you that the Board would rather prevent than correct improper practice.

PROSECUTION OF UNLICENSED PERSONS

A most important method of regulating the practice of a profession by other than the board is the prosecution of those who do so without a license. You will understand that an unlicensed person who practices a profession is guilty of a criminal offense, just as much as is a person who is guilty of murder or any other crime. They cannot, by way of discipline, be deprived of a license for the very good reason that they have none. The law provides only for their punishment.

These persons are prosecuted by the various district attorneys throughout the State; frequently, however, upon the behest and with the coöperation of the Board of Medical Examiners. The latter board has three special agents, who are expert investigators, specially equipped with a medical acumen not to be expected from a general police officer.

SPECIAL AGENTS OF THE BOARD

Their work is another evidence of the age of specialization, and they are not often or easily hoodwinked by pseudomedico-legal explanations. Each must have some knowledge of medicine, drugs, legal procedure, and particularly be endowed with the requisite amount of horse-sense. They are trained not to be persecutors, but to engender good will toward the medical profession, rather than ill will against it.

These special agents must likewise, when the occasion demands, file complaints before the Board against licentiates. In each instance they must now submit the charge, and a statement of the evidence in support of the charge, to the Attorney-General before a complaint will be issued.

If it is found that the evidence sufficiently supports the charge, a complaint is prepared, filed and served on the person so charged.

It is but fair to say, however, that the special agents have no more choice in what the law is than has the Attorney-General, who must interpret it. In rare instances, misguided defendants, or their champions, seek to abuse the special agents for performing their duty under the law, not realizing that the legislature is the body primarily charged with changing an unsatisfactory law.

ANNUAL DIRECTORY OF CALIFORNIA LICENTIATES

Each year every licentiate of this Board receives a Directory of Licensed Physicians. It contains a report of what your Board and special agents have been doing to prevent the unlawful practice of medicine. Read it if you would be advised what they have been accomplishing, but particularly read the first portion, which relates to the State and Federal narcotic laws.

OTHER LEGAL PROCEDURES

I have heretofore referred to the third method provided by government for the regulation of professions—that of enjoining the unlawful practitioner from continuing in the practice unlawfully.

The method is an ideal one where, because of purely local conditions, it is impossible to prevent one not licensed as a physician and surgeon from practicing medicine.

Under the present state of the law, a person charged with a misdemeanor must be accorded a trial in the township in which the offense occurred; and in some townships the justice of the peace and the jury are acquaintances, close friends, or even patients of the defendant.

Though, theoretically, a conviction in such a case might be secured as a practical matter, it cannot, and the State or Board cannot have the case moved to another township in the same county.

The remedy of injunction is not and cannot be secured in a local justice's court. It is secured in the Superior Court, the latter being exactly what its name implies—a court of superior jurisdiction. This court's power extends the length and breadth of the State, knows no geographical confines of political subdivisions, and most important, is above local influences.

In such a case the law seems to be settled in California that a medical practitioner may bring a private suit on his own behalf to prevent the unlicensed person from practicing medicine, because, by practicing, the unlicensed man will interfere with the exclusive privilege or property right to practice medicine granted the physician.

Peculiarly, the court reasons it has power to prevent a wrong to the public because it will deprive a physician of an income; yet as late as six weeks ago it denied the State an injunction to prevent a person from practicing medicine whose license to practice was a limited one, not medical in character.

So under this theory of the law the test seems to be loss of money as opposed to a possible injury to humanity.

Perhaps, as I stated before, the remedy for a situation such as this lies with the legislature.

State Building.

POLIOMYELITIS—THE LOS ANGELES EPIDEMIC OF 1934*†

By R. W. Meals, M.D.
Vernon F. Hauser, M.D.
and
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I

THE problem of poliomyelitis is still controversial, as shown by the increasingly voluminous literature; but each contribution adds information to the aggregate which will some day tell the story of this dreaded disease.

Following the 1930 epidemic in Los Angeles, we reported [1] unusual findings which were questioned by a few on the grounds of inaccurate diagnosis. The findings in the present epidemic of more than 1,800 cases were still more "atypical," and worthy of discussion. The same rigid diagnostic criteria, of either definite neurological findings or conclusive spinal fluid changes, were adhered to.

Representatives of the United States Public Health Department, the California State Department of Health, the Rockefeller Institute, and the Mayo Clinic were here during the epidemic, and their detailed reports on certain phases of the outbreak will probably include some mention of the peculiarities of the disease, as seen here this year. Our observations were largely clinical, and did not include a search for the causative agent; although monkey inoculations and cultural work were done in our laboratories and will be reported independently.

THE CAUSATIVE FACTORS IN THIS EPIDEMIC

We feel certain that the causative agent in this epidemic was a different strain of virus, or that some unusual factors were pertinent, because of (1) the very different clinical picture; (2) the incidence of the disease among adults, particularly doctors and nurses; (3) the appearance of mild symptoms in a few patients who had had poliomyelitis; and (4) the failure of convalescent serum to alter the course of those first few fatal cases seen early in the epidemic. This assumption is in keeping with the work of Burnet and Macnamara,[2] who showed conclusively, by neutralization tests, that different strains of virus exist in monkeys. The clinical pictures in our cases might have been altered by complicating antecedent or coincidental infections, for it is of interest to note that the high seasonal incidence of diphtheria at the time of the outbreak dropped sharply as poliomyelitis increased still more rapidly; that 24 per cent of the poliomyelitis cases admitted to the hospital showed positive diphtheria throat cultures; and that "sore throat" was a very common complaint in this epidemic. Diphtheria toxin notoriously contains a neuotrophic fraction.

Again, the fact that a large percentage of cases (approximately 16 per cent) suffered a preceding enterocolitis, often with mild encephalitic symptoms, suggests the possibility of a primary intestinal infection, with neurological complications; or a possible gastro-intestinal tract atrium of poliomyelitis virus. Neurotrophic toxins of gastro-intestinal origin are not uncommon. Botulism is an outstanding example. Several other organisms have been incriminated, including the typhoid-enteritidis group, and the dysentery bacillus. A mild epidemic of bacillary dysentery in Los Angeles in 1932 was complicated with a high percentage of encephalitis and six deaths, the latter showing inflammations of the brain and cord quite independent of the dehydration. Dysentery bacilli were found in the stools of several patients in this epidemic of "atypical" poliomyelitis.

Toomey and Wolfgang [3] demonstrated the presence of a toxin in the gastro-intestinal tract of monkeys ill with poliomyelitis which could be neutralized with convalescent poliomyelitis serum, and which produced ileus when introduced into the intestines of healthy animals. This probably represented involvement of the sympathetic plexuses, a step removed from the central nervous system. Infection of the latter by way of the digestive tract, and the lymphatics adjacent to the inferior mesenteric and lumbar spinal arteries, is not improbable. European investigators have infected monkeys by tube-feeding, and by injecting, through the intestinal wall, virus-containing media. Flexner [4] believes that this avenue is not an etiologic factor in human poliomyelitis. However, those of our cases with marked intestinal symptoms and involvement of the lumbar cord, and without symptoms referable to the respiratory tract or the area of the usual portal of entry along the olfactory pathway,[5,6] suggest this possible atrium of infection.

The adult incidence was another reason for suspecting a different strain of virus. The majority of cases (63 per cent) were in the age groups up to fifteen years, but the relative numbers of those in the late second, third, and fourth decades of life were increased. If, as we believe, a large majority of the adult population of urban communities are immune to poliomyelitis,[7] as a result of repeated contact, and mild, unrecognized, or subclinical infection, then these patients from a community of this size should have been adequately protected. Particularly is this true of doctors and nurses; yet the incidence among this class was far greater than among the population at large, and these patients were, on the average, far the sickest. In the case of those working in the Communicable Disease building, fatigue and breaks in technique were undoubtedly factors, for the epidemic precipitated so suddenly that help and space were at first inadequate, and nurses and doctors worked long hours in crowded rooms.

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* From the Los Angeles County Hospital.

† See also pages 108 and 111.

BORDER-LINE CASES

A few patients were seen who gave histories of having had poliomyelitis and who showed symptoms of mild systemic intoxications, with some peripheral findings. These were not proved cases, but the symptoms were of intractable origin, and suspiciously those of the prevailing epidemic disease.

During the spring of 1934 we lost eleven cases of the bulbar type, a mortality rate of 14.4 per cent of a total of seventy-six cases for that period. These patients were treated with large amounts of convalescent serum by all routes. They showed, on postmortem examination, medullary changes typical of poliomyelitis. The disproportion of bulbar to spinal types suggested a strain of virus with marked affinity for the higher portions of the central nervous system, a predilection fortunately not shown throughout the epidemic. The failure of convalescent serum to help these patients also suggested a different strain of virus, although we doubt the value of any therapy in cases with involvement of the cardio-inhibitory or respiratory centers in the medulla. The term "bulbar polio" is loosely used to include those cases showing respiratory failure from intercostal (thoracic) or phrenic (cervical) nerve paralysis, or those with transient cerebral changes incident to the initial toxemia.

ROSENOW'S FINDINGS

The work of Rosenow of the Mayo Clinic has been reported from Rochester.[8] We are not prepared to comment on his findings, except to say that he found in pharyngeal and nasal smears from patients streptococci which were morphologically and cataphoretically similar to those previously found in proved cases of poliomyelitis; that these streptococci produced symptoms in animals, and could be recovered at necropsy; that filtrates from emulsions of spinal cords of these animals produced typical symptoms of poliomyelitis when injected into other animals; that vaccines made from these organisms gave positive skin reactions for susceptibility in 80 per cent of those patients tested within the first two days of illness, and showed negative reactions on these same individuals after their recoveries; and that 76 per cent of those in intimate contact with the disease and not contracting it showed an immunity by this test. We are not convinced that this streptococcus is the answer to the question of etiology, but we do agree with Doctor Rosenow that it *may* represent a mature form of an ultramicroscopic and filterable organism, or *may* be a symbiotic relation. The incidence of the disease among casual contacts and its epidemic tendencies still classify it as "contagious," and we still feel that the frequency of "isolated" cases indicts the "healthy carrier."

PATHOLOGICAL STUDIES

Opportunity for pathological study was afforded only in cases of the fatal cerebral type. The microscopic changes were those characteristic of most central nervous system inflammations, namely, a perivascular infiltration of small, mononuclear, round cells forming a "collar" about the blood vessels to obstruct or narrow their lumen and effect a vascular congestion with adjacent cellular edema and degeneration. Poliomyelitis has a tendency to pick out isolated groups of nerve cells instead of affecting large areas, and in the cerebral type seems to have a predilection for the medulla and basal ganglia. Although the characteristic cord changes are those of degeneration of the motor cells of the anterior horns, occasional cases show changes in the lateral and posterior horns as well. One case came under observation which showed definite posterior horn-cell degeneration, an interesting observation in view of the clinical sensory findings, to be discussed later. Generalized lymphatic hyperplasia, as described by Burrows,[9] was noted.

IMMUNITY

Immunity has been considered in the discussion of adult morbidity. The tendency to relapse, after apparent recovery, was evidence of poor immunologic response on the part of the patient, or poor antigenic properties of the causative agent of the disease, as seen in this epidemic. An interesting observation was that reported by Howitt,[10] in which she noted that the convalescent serum of patients treated with immune serum, and thus passively immunized, showed less virus-neutralizing power than the convalescent serum of patients who were not treated specifically, and who developed their own antibodies. This is in accord with immunologic concepts of the superiority of active immunization, and would be expected of a disease such as poliomyelitis in which the immunity afforded by infection is ordinarily adequate and permanent. It is, however, the first time it has been demonstrated by a controlled series of cases. She also showed that the serum of recovered cases contained more virus-neutralizing power than the serum of severely paralyzed patients. Obviously, the immunologic response was greater in the recovered cases.

SYMPTOMS AND SIGNS

Symptoms.—The poliomyelitis seen here this year was so variable in its manifestations, that no syndrome can be described which accurately portrays the clinical picture. A majority of cases showed some degree of initial toxemia, but in many there was a conspicuous absence of the early neurological changes, or localizing findings, which ordinarily help to differentiate preparalytic poliomyelitis from the systemic phase of other acute infections. A few cases were afebrile during the entire period of observation. A few were without the severe frontal, or postorbital, headache and painful occulomotion, that have heretofore been largely present in our experience. Many complained of sore throat, often without evidence of local inflammation or adenopathy. Many cases suffered an initial diarrhea, often with abdominal cramps, sometimes with vomiting, and occasionally with mental dullness or lack of power of concentration, suggestive of cerebral involvement. These appeared to be primary gastro-intestinal infections, some with, and some without, a generalized toxemia. Nearly every patient complained of some pain in the cervical or lumbar areas, but this was less severe, on an average, than formerly. Stiffness of the neck and spine was often absent, but in spite of this occasional flaccidity, spinal flexion, with stretch of the dura about the inflamed nerve roots, caused cervical or lumbar pain in most cases. This "spine sign" is usually the earliest neurological finding. Headache, or pain in the back or abdomen, induced or accentuated by slight trauma, was noticeable, even in those cases showing no increase in intrathecal pressure. The degree and duration of muscle pain, tenderness and severe cramping, were out of proportion to the motor phenomena. Some cases apparently suffered no premonitory symptoms, but developed neurological findings very suddenly at the onset.

Signs.—The objective findings were as atypical as the subjective symptoms. The frequency of a positive "spine sign" without spinal rigidity has been mentioned. Reflexes remained intact, although often diminished and frequently asymmetrical, in a large majority of cases. Muscle weakness was often very mild or transient, but pain on motion was sometimes pronounced. Frequently, muscle checks showed no weakness nor asymmetry, sometimes no pain, but a marked fatiguability of the affected extremity on repeated tests. In some cases there was a delayed fatiguability that was very persistent, and was aggravated by testing. Sensory phenomena seemed to be uniformly out of proportion to motor changes. Muscle tenderness was often acute. Hyperesthesia was pronounced, and in some cases was localized and contralateral to the paresis (Brown-Séquard phenomena, due to unilateral myelitis involving the lateral spinothalamic tract). An occasional case developed temporary surface anesthesia over areas corresponding to the nerve distribution from individual cord segments. In some cases the degree of abdominal pain, distention, and vomiting, was quite alarming, but absence of abdominal rigidity precluded the probability of peritoneal inflammation, while associated urinary retention and lumbar and lower extremity pains seemed to incriminate the sympathetic and central nervous systems. Also, the sudden relief after spinal puncture, even in cases showing no increased intrathecal pressure, indicated a paralytic ileus, a phenomenon not common in poliomyelitis, particularly of such low virulence. Further evidence of sympathetic involvement was the common finding of localized sweating over the surface of the affected extremity.

(To be continued)

THE ORTHOPEDIC TREATMENT OF CHRONIC ARTHRITIS*

By Ellis Jones, M. D.
Los Angeles

Discussion *by LeRoy C. Abbott, M. D., San Francisco; Ralph Soto-Hall, M. D., San Francisco; Maynard C. Harding, San Diego.*

THE orthopedic treatment of chronic arthritis is directed in the earlier stages of the disease to the conservation of joint and muscle function and the prevention of deformity and in the later stages to the correction of deformity and reconstructive joint surgery. The conservation of joint and muscle function is accomplished by physical methods and demands both physiological rest and exercise. The principles of rest and exercise are more adequately applied when the constantly changing pathology occurring in both the major types of arthritis—atrophic arthritis, the so-called rheumatoid or proliferative type, and hypertrophic arthritis, the so-called degenerative or osteoarthritic type—is understood.

PATHOLOGY

Atrophic arthritis begins in the soft tissues and fibrous structures surrounding the joint with the gradual spreading of inflamed tissue into the joint capsule and synovia in the presence of early and extreme bone atrophy, which constitutes a valuable early diagnostic sign. Later, marginal granulation tissue forms and creeps centrally over the articular cartilage as a vascular ring of pannus, which may entirely replace the articular cartilage. This process occurring over both of the articular surfaces of the joint, the opposing layers of granulation tissue may adhere to each other, becoming vascularized in the form of firmly organized connective tissue. Also, the connective tissue of the marrow, proliferating, contributes to form a vascular granulation tissue which extends up to and may even ulcerate through the overlying articular cartilage. Therefore, the cartilage of an atrophic joint may be destroyed either by the extension of granulation tissue over its surface or by the extension of granulation tissue from the marrow.

LOCAL JOINT THERAPY AND SUPPORT

With this pathology clearly in mind, the importance of both physiological rest and exercise combined with the judicious employment of the physical methods in order to maintain joint motion and nutrition and muscular activity will be recognized. Rest to the atrophic joint is best obtained from the application of adequate braces and removable splints, having clearly in mind that the atrophic joint does not demand complete and continuous rest, but exercise as well. Absolute fixation of an atrophic joint by a plaster cast is contraindicated if we are endeavoring to preserve motion and prevent bony ankylosis. In general, braces are not applied sufficiently early in the management of atrophic arthritis. The initial onset of deformity is early and its progress rapid,

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especially in the fingers, wrists, elbows, shoulders, and the small joints of the feet. The early application of a cock-up brace maintains the hand in excellent functional position, even if ankylosis of the wrist eventually occurs. Functional position of a shoulder is maintained in moderate abduction by a well-fitting aeroplane splint. The early application of a flexible arch support, modeled from plaster impressions of the feet, maintains comfortable weight bearing and prevents crippling deformities of the toes. A well-fitting corset or a light spinal brace is often a great relief to patients with this form of arthritis, since it relieves a constant forward strain of the erector spinae muscles and corrects a tendency to kyphosis. Rest to the knee joint and prevention of a flexion deformity is best accomplished by any type of brace similar to the Thomas caliper. In patients with hip joint involvement, a weight-bearing ischial ring is incorporated in a simple caliper. No matter what type of brace is employed, it is well to remember that continuous fixation of the atrophic joint is to be avoided. I like to think of braces and splints as being simply adjuncts to the still more valuable treatment by both the medical and physical methods.

The purpose of all forms of physical treatment, namely, the employment of heat, electrical treatment, massage, exercise and heliotherapy, is to maintain skin, muscle and joint nutrition and function until the acute process has subsided. It is not a simple matter to indicate when the disease is no longer active, although the absence of pain and the increasing ability to move a joint are helpful signs.

Dry heat is applied by infra-red light or an electric pad. The use of moist heat often proves more grateful to the affected joint and may be applied by the use of epsom salt soaks or hot packs, mud packs and hot baths.

In a more specialized effort to apply heat, diathermy, a rapidly alternating form of high frequency current, is a two-edged sword, and, when prescribed in the treatment of atrophic joints, increases pain and joint congestion, particularly in the presence of even a mild joint effusion. Any effusion of a joint, no matter how slight, is far better treated by early aspiration.

All treatment involving the use of local heat should be followed by either massage or movements as a routine. In the case of local muscular or fibrous induration, massage is preferable in order to break up the products of inflammation so that they may be removed by the blood and lymph circulation which are at their best as the result of thermal treatment. Movement always is preferable to massage where the affected structure is a joint and is indicated in all forms of muscular wasting. Physiological exercise of the musculature about an arthritic joint can be obtained best by the use of the Bristow-Smart coil, which produces painless graduated muscular contraction by the Farradic current. This is an exact physiological duplication of exercise and has the extraordinary advantage of producing muscle exercise when active voluntary joint and muscle movement is unwise. The Morton Smart unit produces a greater inflow and outflow of blood in the affected tissues, actually stimulating joint repair and increasing absorption of serum, lymph and inflammatory exudate. In our experience with this method, it has obviated the use of massage, since the muscular contraction of itself accelerates circulation locally.

The value of massage is distinctly overrated. Massage alone is useless, and no inflamed joint should ever be massaged, although the nutrition of the muscles about an affected joint may be maintained by massage. Graduated muscular contractions or active voluntary motion, are infinitely superior. It is unfortunate, also, that massage in the treatment of arthritis is too generally understood to include joint manipulation; although it is important that any affected joint should go through a full range of motion daily and with help, if necessary, yet manipulation to include forced passive motion is a traumatic insult to an atrophic joint. Only in the late stage of atrophic arthritis, when ankylosis seems inevitable, is manipulation justified to place a joint in good functional position.

We believe that heliotherapy is of distinctly limited value in the treatment of any patient with acute atrophic arthritis. Such a patient is fatigued and toxic. Complete bed rest, preferably in the open air, is good treatment not only for the patient, but also for the joints, and heliotherapy, while useful in restricted dosage, too often contributes to the general exhaustion of the patient. It is also during the acute, inflammatory stage of atrophic arthritis that local joint therapy, as well as heliotherapy, is too vigorously employed.

OPERATIVE TREATMENT

Operative treatment occupies a relatively small place in the treatment of atrophic arthritis. The early aspiration of joint effusion and the correction of deformities by tenotomies, osteotomies, and capsulotomies is common orthopedic practice. The operative fixation of a joint is indicated when a few degrees of painful motion are present in a joint, making it unfit for weight bearing, since a rigid but painless joint arthrodesed in good functional position is distinctly preferable to a movable, painful joint. Reconstructive surgery in the atrophic type of arthritis is never to be considered until all joint activity has been absent for at least six months. Arthroplasty, the formation of a new joint as a substitute for an atrophic ankylosed joint, is particularly successful in mobilizing the elbow, hip and knee joints. Osteotomy is more commonly employed for the correction of flexion deformities of the knee joints and ankylosis of the hip joints with excessive adduction, the so-called "scissors deformity." We have not found it necessary to fuse a sacroiliac or any other spinal joint in the surgical treatment of chronic atrophic arthritis.

HYPERTROPHIC ARTHRITIS

Hypertrophic arthritis, the so-called osteoarthritic or degenerative type, is at present considered a degenerative disease affecting the articular cartilage and particularly the weight bearing surfaces of joints after middle life. The brunt of the damage in hypertrophic arthritis is borne by the articular cartilage in the underlying bone. The articular cartilage undergoes erosion, local atrophy, proliferation, replacement by fibrous tissue, marginal osteophytic lipping, and detachment of articular areas often forming loose bodies or "joint mice." There is a gradual, progressive enlargement of the bony ends of the joint with new bone formation, which often mechanically limits the motion of the joint itself. The articular cartilage degenerates in the central portion where the pressure of the opposing surfaces is greatest. Heberden's nodes may occur at any stage of the disease. The condition occurs most frequently in the knee, hip and spinal joints. Complete bony ankylosis seldom takes place. The tendency of atrophic arthritis to spread to many joints is not seen in hypertrophic arthritis. The sufferers from hypertrophic arthritis are generally well nourished, active individuals in whom simple or repeated traumata seems to play an important part in the onset and exacerbation of joint symtoms.

LOCAL THERAPY AND SUPPORT TO JOINT

This form of arthritis can be helped considerably by suitable orthopedic appliances. A walking caliper with the weight of the body taken by an ischial ring is useful in a monoarticular affection of the hip, but it demands exact fitting to avoid being a nuisance rather than a help. A well-fitting spinal brace with a moulded pelvic sheath and with axillary crutches incorporated, if necessary, by relieving the static overload on hypertrophic spinal joints in obese or heavy set individuals, will often afford a striking relief of back symptoms when all other forms of treatment have failed. It is well to gradually discontinue use of a brace when the acute symptoms subside and to substitute some form of corset or sacro-iliac support. Static strain greatly aggravates otherwise minor symptoms, especially in hypertrophic knee joints, and the judicious employment of arch support will not only relieve subacute symptoms in these joints, but in the hip and lower spinal joints as well.

The use of traction to arthritic joints, both atrophic and hypertrophic, is of distinct value in furnishing early relief to rapidly flexing and acutely painful knee and hip joints and may be advantageously employed in conjunction with either brace or splint fixation.

Physical methods of treatment are unusually successful in relaxing muscle spasm, increasing blood circulation, and maintaining joint function and nutrition. Baths and spa treatment have a very distinct place in the treatment of hypertrophic arthritis. Infra-red light, diathermy, and massage relieve pain, and massage, not only of the muscles but of the joints themselves, is not only permissible, but desirable. We have obtained the best results in local joint therapy, however, by the persistent use of cataphoresis in the form of potassium iodid ionization, the application of a strong galvanic current with the electrode pads soaked in a solution of potassium iodid which is easily dissociable by electricity.

OPERATIVE TREATMENT

Operation is justified at any time in the course of hypertrophic arthritis when surgery offers definite improvement; for example, the removal of loose bodies, the surgical stabilization of an acutely painful or rapidly deforming hip joint, or the excision of a femoral head to restore hip joint motion. We have found that synovectomy of the knee joint, the systematic removal, total or partial, of hypertrophied synovial membrane, including both meniscii and the hypertrophied retropatellar pad, give excellent results, particularly when the soft tissues are greatly hypertrophied and if the arthritis is not too far advanced. In an ankylosis of both hip joints, we prefer to reconstruct a single joint. The reconstruction operation has always included excision of the femoral head. A simple excision of the head can be rapidly performed, and with or without reconstruction of the femoral neck, has given good results. After the head is removed, the leg is abducted in a plaster cast for from six to eight weeks until the neck is securely fixed in the acetabulum. We have reserved simple excision of the femoral head to restore mobility in older patients in whom both hips are ankylosed. In younger patients, we have utilized both the Albee and the Whitman methods of reconstruction of the hip joint. In both operations the femoral head is excised, and a reconstruction of the neck is done. In the Whitman operation the greater trochanter with its muscular attachments is freed and transplanted laterally downward. We believe that both procedures are of equal advantage.

Although we have often performed an arthrodesis of the hip to stabilize a hypertrophic arthritic joint, we have found bony union difficult to obtain. Consequently, we now prefer to do some type of reconstruction operation, particularly since restoration of mobility in the hip joint is infinitely more appreciated by the patient than a stable joint.

We have found arthroplasty of the hip joint to be attended with particularly favorable results in chronic hypertrophic arthritis.

Chilotomy, the removal of osteophytes around the femoral head and acetabulum, has given indifferent results, and, although it may result in increased joint movement and considerable relief of pain, the result should not be guaranteed. This operation is being replaced by one of the various methods of hip joint reconstruction.

We have had no personal experience with the bifurcation operation for the relief of hip joint deformity in hypertrophic arthritis.

Manipulation in the hypertrophic type of arthritis is of debatable value. We have obtained striking results in the manipulation of an early hypertrophic hip joint, particularly when manipulation has been followed by direct traction and reinforced by judicious joint nursing. Manipulation has a particular field of usefulness in the various types of periarthritis, rather than in true intra-articular disease. Periarthritic adhesions about the shoulder joint are manipulated with complete recovery, but the manipulation of a shoulder in atrophic arthritis is attended with great risk of fracture of atrophied bone and rapidly increasing synovial hypertrophy in the presence of acute inflammation and increasing fibrosis. A joint in which a simple fibrosing capsulitis can be demonstrated with limitation of motion in only one or two directions can be manipulated safely. A manipulation of the back in the presence of gross hypertrophic changes gives temporary relief, but it seems unreasonable to expect any lasting benefit.

There is a form of arthritis commonly seen in women past middle age which is characterized by massive synovial hypertrophy, joint effusion, and soft tissue thickening. It usually affects the knee joints and is perhaps a condition of chronic proliferative synovitis, rather than a true arthritis. It is often curable in the early stages by conservative measures. In my personal experience, I have found it to be invariably cured by a complete synovectomy. The particular indication for surgical interference in this form of arthritis is that, if it is untreated, it becomes in the course of time a hypertrophic arthritis, with major degenerative changes indistinguishable from the usual form of the disease.

IN CONCLUSION

It will be seen from this brief résumé that the indications for operative treatment in chronic arthritis are distinctly limited and sharply defined. There are still a large number of patients seriously crippled by chronic arthritis who must seek relief from reconstructive surgery, but it is now becoming increasingly possible in general practice with better treatment at an earlier stage to cure or arrest chronic arthritis by conservative methods before it has progressed to the point where operative treatment is needed.

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DISCUSSION

LeRoy C. Abbott, M. D. (384 Post Street, San Francisco).—In this paper Doctor Jones has stressed the importance of a thorough understanding of the pathology in the two principal types of arthritis—the atrophic or proliferative, and the hypertrophic or degenerative type. In the former there is a tendency to ankylosis; in the latter, limitation of motion is the rule, without complete stiffening of the joint.

In atrophic arthritis the failure to apply the fundamental principles of treatment early in the course of the disease often leads to ankylosis of the joint with deformity. Recognition of this type of arthritis, with application of splints for rest and support, the use of active motion, the elimination of the causes of disease and the building up of the patient's general condition frequently result in the arrest of the condition. In the degenerative or hypertrophic form of arthritis, local support to the affected joint and physical therapy are of use in the relief of symptoms and the preservation of motion. The prevention of strain, of overweight, overuse of the joint, and the application of the principles of rest, with the elimination of trauma, are essential.

Operation is beneficial in the type of arthritis in properly selected cases, and its field of usefulness is especially seen when the hip joint is involved. In hypertrophic arthritis of this joint, arthrodesis often fails. Excision of the head or some type of reconstructive operation yields more favorable results. In the early cases with slight change in the cartilage, manipulation under anesthesia may yield satisfactory results and improve function over a period of several years. Manipulation is also indicated for correction of deformity and the prevention of mechanical strain.

The author has sounded a note of optimism in the treatment of patients affected with arthritis. In recent years, by its early recognition and the early institution of sound principles of treatment, the arrest of the disease has occurred in many instances before marked destruction of the joint and deformity have taken place. By the intensive study now being given to the disease and through the coöperation of various men in special fields, we can hope for further advances in the elimination of the causes and effects of this common and crippling condition.

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Ralph Soto-Hall, M. D. (350 Post Street, San Francisco).—I wish to stress the benefit which can be obtained from certain methods of traction in suitable cases of arthritis. These can be divided into different groups. In the acute stage of arthritis of the knee or hip, the relief experienced from simple extension is common knowledge. Similar relief can be also obtained from a combination of bilateral leg traction, plus a pelvic sling in cases of sacro-iliac arthritis. The benefit from this may be the result of actual improvement in some mechanical derangement of this intricate joint. Traction also has a large place in the treatment of chronic arthritis. Of definite value is the balanced traction of Steindler, to overcome contractures of the knee in atrophic arthritis. This method involves skin traction along the axis of the tibia, combined with an upward sling resting beneath the proximal third of the calf. This avoids the usual posterior subluxation which occurs on correction of this deformity by other means. A countertraction is obtained by a sling under the thigh. The weight on this is reduced as the flexion is diminished.

A similar arrangement of traction can be employed to overcome certain contractures of the hip joint. I have found of particular value the use of double skin traction in the shoulder, to restore loss of abduction and external rotation after inflammatory changes in the joint. The patient is placed in bed in the semi-Fowler position, with seven to ten pounds of skin traction along the axis of the humerus, and the shoulder abducted as much as possible. The elbow is flexed to 90 degrees and another traction is applied along the forearm, but with the pull toward the head of the bed. This is gradually increased and thus external rotation is regained.

The author has given an excellent review of the various operative procedures, and in passing I would like to emphasize particularly the opportunities that are open to us in hypertrophic arthritis of the hip joint, where remodeling operations and partial arthroplasties are accompanied with definite success.

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Maynard C. Harding, M. D. (Medico-Dental Building, San Diego).—Doctor Jones, in his paper, expresses a viewpoint rather more conservative than that of most orthopedic surgeons on the Pacific Coast, and one in which I am wholly in accord.

The orthopedic attack on arthritis still centers on rest and support. Manipulative treatment finds success mainly in the peri-articular affections, while its worst failures are in the infective atrophic types. Doctor Jones has done well to stress the limitations of heat treatment, and to point out the necessary adjuncts to such treatment when given. No single therapeutic agent is today so overused and misused as heat. It sometimes seems to me that the profession has given over its thinking on this subject to the makers of heating apparatus. Heat has its uses, to be sure, but let us apply it in accord with the principles of physiology.

This paper well deserves a thoughtful reading. It will do us all good to apply its statements to our present conceptions of arthritis, in order that we may bring ourselves abreast of the best current orthopedic treatment.

DYSOVULATION*

By Samuel Hirshfeld, M. D.
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Discussion *by Roland Cummings, M. D., Los Angeles; Roy E. Thomas, M. D., Los Angeles; Fred S. Modern, M. D., Los Angeles.*

RECENT advances in the knowledge of the physiology of menstruation have made possible the correlation of certain clinical symptoms with pathologic states not always attributed to disturbances of ovarian function. This is exemplified by a symptom complex to which the term "dysovulation" may be applied.

Dysovulation may be defined as difficulty in the normal physiological extrusion of the matured ovum from its Graafian follicle, and may lead to such pathological destinies as intermenstrual pain, cystic ovaries, ruptured Graafian follicle, and corpus luteum cysts and hyperestrus, with its accompanying emotional imbalance. An analysis of a series of twenty-two cases of dysovulation has brought to light the fact that a characteristic syndrome exists.

With the exception of two patients (Cases 2 and 42) each of the women in this series was seen first because of acute abdominal pain. The pain generally originated in the right lower quadrant. It appeared suddenly, was severe, persistent, and cramp-like in character. Usually, it was intense for the first day, and then gradually lessened. After the subsidence of the pain, there was sometimes a persistent burning sensation in the right side. With the pain, the patient was often nauseated, but vomiting never occurred. These patients also exhibited marked anxiety, nervousness, and irritability, or mental inactivity and muscular exhaustion. Occasionally tumors of the hands and feet were so marked as to dominate the picture. In two instances (Cases 38 and 43) generalized trembling and tachycardia accompanied the attack, and was so alarming that emergency medical aid was summoned.

Heart palpitation was a common symptom. Some of the patients complained of dizziness. Not infrequently there was moderate sweating during the attack, so that the statement was often made that "when I get the pain, my hands and feet become cold and clammy."

The invariable presence of these autonomic disturbances [9, 10] should recall to the clinician the interdependence of the ovaries and the autonomic nervous system. Close questioning always brought to light the information that attacks of nervousness had recurred more or less regularly during the intermenstrum, and might last a day or two. The periodicity of the psychic upsets was another factor in focusing attention on the gonads as the seat of the pathology.

The arresting feature of the illness, and the most valuable diagnostic essential, is the time in the menstrual cycle when the symptoms arise. A thorough history elicited the fact that the attack of pain happened either during or immediately after the time of ovulation, which is approximately fourteen days after the onset of menstruation. Furthermore, in most cases, there was a story of repeated previous attacks. Some of the patients had suffered over a period of years, others for only a few months, while two (Cases 40 and 27) were operated on in the first attack. Other patients had experienced repeated episodes of unaccountable nervousness, which had recurred regularly in the intermenstrum and were associated with vague abdominal symptoms such as women often consider premonitory of menstruation.

When pain was the cardinal feature of the intermenstrual disturbances, the ensuing menstrual period was generally delayed. Such delay was usually of only a few days' duration; at other times there was a delay of weeks, even occasioning a suspicion of pregnancy. Five patients (Cases 146, 27, 20, 9, 85, and 2) not desirous of pregnancy, had had abortions performed; but a subsequent review of their histories indicated that the diagnosis of pregnancy had been entirely unsupported.

The general physical examination during the acute attack revealed no abnormality except the local findings in the abdomen. In one instance (Case 82) a massive intra-abdominal hemorrhage gave a picture of shock and internal hemorrhage. In the remaining patients no true rigidity was present in spite of the fact that the majority of the patients in our limited series gave a clinical history of localized right-sided lower abdominal pain at the onset of the illness. At operation the pathology was not necessarily limited to the right side. In two cases the pathology was entirely left-sided. A sufficient number of these cases has not yet been treated surgically to permit speculation on this almost uniform localization of pain to the right side.

With a history, such as we have described, particular stress was naturally laid on the pelvic examination, and only twice (Cases 2 and 11) was any abnormality palpable. All of these patients had been seen by gynecologists and, except for tenderness in the fornices, no gross lesion was reported. Blood pressure determinations gave low manometric readings in all instances. Of the other routine procedures, such as blood Wassermann, urinalysis, and basal metabolic rate, no information of diagnostic value was gained.

During the attack there was often an elevation of the white blood count with a high percentage of polymorphonuclear cells. We have seen the blood count change very rapidly, and return to within normal limits in as short a time as twenty-four hours. A low-grade temperature usually accompanied the attack. Two of the patients (Cases 129 and 146) who were desirous of becoming pregnant had a Rubin test, and one had an hysterosalpingography with lipiodol (Case 27) which showed patent tubes. Nevertheless, it is interesting to note that in none of these patients had a pregnancy occurred after the onset of the symptoms.

Six of the patients had consulted gynecologists regarding their sterility, but were advised that there was no demonstrable reason why pregnancy should not occur.

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* Read before the Southern California Medical Society on April 6, 1934.

PATHOLOGIC CHANGES

An opportunity to establish the pathology responsible for the clinical picture was afforded in thirteen cases by operation. A large hemorrhagic excrescence was noted on the surface of the ovary in all the cases, and free blood in varying amounts was found in the peritoneal cavity. Both ovaries were somewhat enlarged; the surface was smooth and of milky-white color, and was the seat of numerous follicular cysts. In most instances there were adhesions to adjacent structures, and twice small inflammatory cysts on the tubes and broad ligament were seen. Four patients showed some thin adhesions to the meso-appendix, and the appendix was bound down by tenuous adhesions to the right ovary. Histologic study failed to reveal any acute inflammatory process in the appendices removed at operation.

TREATMENT

Although the tendency in therapy is toward conservatism, nevertheless there are certain definite indications for operation. This indication is entirely dependent upon the severity of the intra-abdominal hemorrhage or persisting hemorrhage, which is determined by the general condition of the patient, the pulse rate, the blood pressure, hemoglobin determinations, and the degree of shock that is present. The operative procedure can only be determined upon visualization of the lesion. If there is any question of doubt as to the diagnosis, exploratory operation should be performed to obviate the danger of overlooking an acute appendicitis.

Conservative treatment is based on the theory that many of the symptoms that these patients complain of, particularly the nervous symptoms, are due to the hormonal imbalance produced by the local pathology. Blood and urine hormonal studies were, therefore, made in an attempt to determine the type of ovarian dyscrasia responsible for the condition. These studies showed a hyperestremia in most of the cases. Various hormonal preparations were tried therapeutically. Although it is too early to evaluate the results obtained with conservative treatment, nevertheless our limited experience seems to indicate that the symptomatic improvement is only transitory, as there have been four instances (Cases 92, 27, 11, and 43) of recurrence of symptoms at varying intervals after cessation of therapy.

RECONSTRUCTION OF PROCESSES INVOLVED

It is interesting to attempt to reconstruct the processes involved. Granted a normal organic equipment, the maturation and discharge of the ovum from the ovary occurs on approximately the fourteenth day after the onset of the previous menstrual period.[1,2,3,6,7] When the ovarian tunic has become thickened from any cause whatsoever, there may be a hindrance to this normal physiological escape of the ovum. The Graafian follicle does not rupture, and there results an increase of the transudate, with the formation of a cyst. Some of the subsequent Graafian follicles may ultimately meet the same fate, producing multiple retention cysts. Thus we encounter cystic ovaries as one of the manifestations of "dysovulation."

At times an excessive amount of transudate is poured into the unruptured Graafian follicle. This may suddenly increase the tension so as to cause the rupture of the newly formed follicular cyst through the capsule of the ovary. If rupture of the follicular cyst does not occur, luteinization may proceed even in the presence of the increasing transudate. Finally, the tension may be sufficient to cause a late rupture of the distended follicular cyst. Thus, ruptured follicular or corpus luteum cysts present a second clinical manifestation of dysovulation. The rupture of the cysts which have reached the stage of luteinization is associated with considerably greater hemorrhage than occurs in the earlier stage. The severity of the clinical picture which these accidents give rise to depends entirely on the size of the associated intra-abdominal hemorrhage.

On the other hand, even in those cases of dysovulation where rupture of the cyst has not occurred, an acute abdominal syndrome may result from an acute distention of the Graafian follicle which so closely simulates appendicitis that exploratory laparotomy is done. Although at operation no other lesion than cystic ovaries is found, the symptomatology which provoked the surgery is rarely blamed on the ovaries, and a normal appendix is removed. Unfortunately, in such cases, intermenstrual pain is only infrequently recalled as a clinical entity. "Intermenstrual pain," first described by Priestly, fits only one symptom of dysovulation, and is therefore inadequate as a diagnosis. The Germans later rediscovered the syndrome and rechristened it "Mittelschmerz." All this antedated the experimental determination of the precise time of ovulation in the menstrual cycle. Consequently, there was no way of correlating the physiological event of ovulation and the pathological disturbance giving rise to the intermenstrual pain.

Most authors, according to Kauffman,[12] believe that there is an inflammatory exudative process concerned in the formation of follicular cysts because of the adhesions found in the neighborhood of the ovary. Our operative findings seemed to corroborate this viewpoint. The most recently offered explanations for the etiology of intermenstrual pain is that a chemical peritonitis is caused by the discharge of the follicular contents into the peritoneal cavity.[7] However, from observations at operation, it was evident that the severity of the abdominal symptoms was entirely dependent on the amount of blood extravasated into the peritoneum when rupture of the follicular cyst has finally occurred.

An excellent illustration of the probable mechanism responsible for the acute abdominal picture encountered was afforded in a patient (Case 62) who was being treated with daily injections of Collip's APL to control intermenstrual nervousness. After the patient had received three injections, there was an acute attack of abdominal pain with high temperature, and signs indicative of peritonitis. Operation was immediately performed; the site of a ruptured follicular cyst was seen in the right ovary; there was a large amount of free blood in the abdominal cavity, and both ovaries were the seat of multiple cysts.

Collip and others[13,14] have demonstrated that follicular cysts may contain as much as 25 RU of estrin per cubic centimeter. In long-standing cases this excess of estrin leads to a marked hypertrophy of the endometrium of the uterus, as was demonstrated in three cases which we curetted for diagnostic purposes. The presence of multiple cysts is responsible for the continuous absorption into the circulation of large amounts of estrin, which not only influences the endometrium of the uterus, but affects the entire human organism by producing a more or less constant state of estrus with its accompanying emotional imbalance. Might this endocrine disturbance not account for many of the psychoneurosis met with in women?

Recently certain authors have claimed that a continuous hyperestrus results in uterine fibroids. Support for this theory was forthcoming by the finding of small uterine fibroids at operation in four of our cases, and it is also noteworthy that all four were young women.

The literature emphasizes the similarity of the clinical picture caused by ruptured ovarian cysts (follicle or corpus luteum) to acute or chronic appendicitis.[8,17,22] The obvious reason for the resemblance is that the seat of the pathology being in close proximity to the appendix, gives rise to an acute abdominal picture which may very closely simulate appendicitis. Furthermore, there are no essential differences in the physical findings in the two conditions, unless a massive intra-abdominal hemorrhage has occurred. Therefore, the clinician must rely on the history for the differential diagnosis.

SUMMARY

The pathogenesis of dysovulation, as reconstructed from pathological findings at operation, seems to justify the theory that various gynecological entities are the result of one common disturbance in the menstrual cycle.

The clinical syndrome of dysovulation is characterized by the regular periodic recurrence of attacks of autonomic imbalance, with occasional acute abdominal manifestations. These attacks always occur in the menstrual intermission at the anticipated time of ovulation. They can be attributed to an interference with this process. The literature[8,16,17,18,19,20,21,22,23] contains many case reports of ruptured corpus luteum cysts with massive intra-abdominal hemorrhage which is a complication of dysovulation.

The relative frequency with which the picture arising from dysovulation is confused with appendicitis is demonstrated by the fact that nineteen of the twenty-two cases reported here were sent to the surgeon for appendectomy.

The chronology of the symptoms which start exactly at the time of ovulation, and the history of repeated similar attacks in the past, following which the ensuing menstrual period has been delayed, should make possible a diagnosis of dysovulation. Such conditions as cystic ovaries, ruptured follicular or corpus luteum cysts and attacks of intermenstrual nervousness should be considered as complications or manifestations of dysovulation.

There is also a possibility that hyperestremia, as one of the results of dysovulation, is the basis of many cases of psychoneurosis in women.

Lately it has been demonstrated that there is a definite association between hyperestremia, hyperplastic endometritis, and uterine fibroids.

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DISCUSSION

Roland Cummings, M. D. (523 West Sixth Street, Los Angeles).—In every case of a suspected appendicitis, the clinician has had to consider the possibility of the symptoms resulting from ovarian disease, and many times he concludes that the ovary is at fault regardless of his inability to explain the pathology.

It is interesting, therefore, to read the description of the disease under consideration written almost seventy years ago by Doctor Priestly. His outline of the symptomology is very complete, and his observation of left-sided pain and tenderness much more common than has been observed by Doctor Hirshfeld. His theory of the ovarian changes during the monthly cycle were very shrewd when compared to the complete knowledge of the cycle existing today.

Rhodenburg and Hellman were able to produce cystic degeneration of the ovaries by injecting corpus luteum. Is it possible, then, that for some unknown reason there has been the production of an excessive amount of corpus luteum in the patients previous to the development of the cysts?

The point in the history regarding the time of the monthly cycle in which this trouble occurs emphasized by the author I wish to reëmphasize, as the diagnosis will often hinge upon the correctness of this information.

I feel grateful to Doctor Hirshfeld for his clear delineation of the mechanism of the production of the symptoms due to dysovulation.

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Roy E. Thomas, M. D. (1136 West Sixth Street, Los Angeles).—To the internist the chief interest of Doctor Hirshfeld's paper lies in those points which aid in the differential diagnosis between the accident described and acute appendicitis.

In the male the diagnosis of acute appendicitis rarely offers much difficulty; but in the female, after puberty, such a diagnosis is often a real problem. Among the more common conditions to be ruled out are acute salpingitis, extra-uterine pregnancy, and ruptured Graafian follicle or corpus luteum cyst. If the diagnosis of rupture of a Graafian follicle can be established with reasonable certainty, the patient is spared an unnecessary laparotomy.

Of first importance in the differential diagnosis of ruptured Graafian follicle simulating appendicitis is an accurate history. One or more previous attacks, of short duration, the absence of previous dyspepsia, the onset of pain in the lower abdomen rather than the epigastrium, and occurring approximately fourteen days after the beginning of the previous menstrual period, are against appendicitis as a cause of the attack.

On examination, the patient with a ruptured follicle is apt to be in a disturbed emotional state, presenting evidence of the autonomic upset described by Doctor Hirshfeld. Palpation of the abdomen shows less muscle spasm than is usually found in appendicitis. Why the pain is usually referred to the right lower quadrant when the pathology may be in either ovary, I cannot say.

Inasmuch as serious bleeding rarely occurs except with the rupture of a corpus luteum cyst (which comprised less than 20 per cent of Doctor Hirshfeld's series), it would seem that whenever the diagnosis seems reasonably certain, these cases should be treated conservatively, unless definite signs of progressive hemorrhage are present.

Dysovulation should be considered as a possible factor in the etiology of many functional disturbances in the female, and certainly in all cases presenting acute lower abdominal pain as a prominent symptom. Doctor Hirshfeld's paper is a timely one.

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Fred S. Modern, M. D. (1135 Pacific Mutual Building, Los Angeles).—Dysovulation is a syndrome which has been known under various names, such as "intermenstrual pain" and "Mittelschmerz," for some sixty-odd years; but Doctor Hirshfeld's paper is, to my knowledge, the first which adequately summarizes and discusses the condition. It must be a comparatively frequent condition, as the author collected twenty-two cases from his own private practice. It must also undoubtedly be frequently overlooked because its symptoms overlap with other more common abdominal disorders from which it is difficult to distinguish, the diagnosis depending on a careful history rather than on the physical findings during an attack.

Dysovulation is essentially a disorder of follicular rupture during ovulation. Symptoms may occur through failure of the follicle to discharge the ovum, and the increase of tension within the follicle due to an increased amount of follicular fluid. Hyperestremia and hyperluteinization may occur as a consequence with their ensuing train of autonomic symptoms due to the excess estrin production and delayed menstruation, or even amenorrhea may follow due to a persistent corpus luteum, if the follicles should fail to involute poly (micro) cystic ovaries may result. If, however, follicular rupture does occur, dependent on the stage of follicular development, we have the picture of an acute abdominal episode either due to a chemical peritonitis or to a more or less extensive intra-abdominal hemorrhage.

Therapeutically the problem is discouraging. Doctor Hirshfeld points out that he has attempted to treat four patients conservatively with opotherapy, all of whom relapsed. The acute attacks associated with true intraperitoneal complications have, as a matter of course, to be treated operatively, unfortunately without definite hope of an ultimate recovery unless mutilated by an oöphorectomy. My own personal experience extends only to a total of five cases of intermenstrual pain which could be tentatively interpreted as dysovulation. In three of the cases the condition was associated with a lowered basal rate and other symptoms indicating myxedema. These three cases responded brilliantly to the administration of thyroid extract and emmenin, the oral anterior pituitary-like preparation developed by Collipp. The other two cases had a normal basal rate and organotherapeutic treatment proved a flat failure.

The recent development of potent endocrine preparations has placed a powerful weapon at the disposal of the medical profession for good or bad. Experience is still lacking as to what side effects some of these preparations might have in long-continued use. Potent estrin-like extracts have been proved, at least in animal experimentation, to have a sclerosing effect on the ovary and its fibrous tunic. It stands to reason that dysovulation might be an undesired side effect, at times, of previous treatment with an estrin-like substance.

BRUCELLA ABORTUS AGGLUTININS*

A STUDY OF THEIR INCIDENCE IN THE BLOOD OF THE GENERAL POPULATION OF A CITY AND SEVERAL RURAL COMMUNITIES IN CALIFORNIA

By C. Emelia Peterson, M.A.
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Discussion *by K. F. Meyer, Ph.D., San Francisco.*

THE following is a report of a comparative study of the frequency of occurrence of Brucella abortus agglutinins in the blood of human beings, collected from the general population of a large urban community and from three rural communities in California. The urban group consisted of patients who registered in the out-patient clinics, and the wards of Lane and Stanford hospitals in

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San Francisco. From these individuals 399 specimens of blood submitted for Widal tests, and 1,631 specimens submitted for Wassermann tests, were studied. The rural group were residents of Kern, Orange, and San Bernardino counties, because the records of the State Department of Health had shown the highest incidence of undulant fever to occur in these localities among the counties of California. Through the courtesy of the county health officials of these communities, 1,336 specimens of blood were submitted from the patients of the various county hospitals: 522 from Kern County, 441 from Orange County, and 373 from San Bernardino County.

HISTORICAL

Considerable work has been done by various investigators on the incidence of Brucella abortus agglutinins in human blood, with wide variations in results. Many have reported positive reactions in dilutions of 1-5 and 1-10, but the majority of investigators are agreed that such low titers are of doubtful clinical significance. McAlpine and Mickle[1] examined 10,157 samples of human blood sent to the Bureau of Laboratories of the Connecticut State Department of Health, and reported sixty-three (0.6 per cent) reacting in a titer of 1-100 or higher. In another series[2] of 10,102 serums collected for the Wassermann test, sixty-four (0.6 per cent) were positive in dilutions of at least 1-100. Of 4,050 samples of human serum submitted for the Wassermann test, Carpenter and Boak[3] found 7.3 per cent to contain abortus agglutinins, but only thirteen (0.32 per cent) agglutinated Brucella abortus in titers ranging from 1-90 to 1-1215. Spray and Hess[4] examined 2,521 serums sent to the State Hygienic Laboratory of West Virginia for routine Kahn and Widal tests, finding twenty-eight (1.1 per cent) to react in a titer of 1-100. Bayne-Jones[5] checked blood serums from 3,716 individuals and reported sixty-four (1.72 per cent) to contain Brucella abortus agglutinins in a dilution of 1-100 or higher. Kilduffe, Fitzpatrick, and Wilson[6] tested 500 samples received in New Jersey for Widal and Wassermann tests, finding only one (0.2 per cent) to give a positive reaction in a dilution of 1-160. Gilbert and Coleman,[7] in studying a large series of 81,848 specimens, reported that 369 (0.4 per cent) reacted with Brucella abortus in dilutions of 1-80 or higher. Of 1,186 blood serums received for Widal tests, seventy (5.9 per cent) were positive in a dilution of at least 1-80. In the series herein reported, a minimum titer of 1-80 was selected.

PROCEDURE

Antigens were prepared from bovine, caprine, and porcine types of Brucella abortus, all of which were obtained from Dr. K. F. Meyer of the George Williams Hooper Foundation for Medical Research. Agar cultures in Blake bottles were collected in sterile physiological salt solution containing 0.5 per cent phenol. After the bacteria had been killed, which was usually within a few days, the suspensions were standardized to a density of No. 4, barium sulphate nephelometer.[8] The initial macroscopic agglutination tests were set up in dilutions of 1-10, 1-20, 1-40, 1-80, and 1-160, using buffered salt solution adjusted to pH 7.0 for dilution, as described by Evans.[9] A saline control was run with each series, and each batch of fresh antigen was tested with normal serum before use. All agglutination tests were placed in an incubator at 37 degrees centigrade over night, and were read the next morning; and only those showing a definite clumping with a clear supernatent fluid were regarded as positive. Brucella abortus Burr, a bovine strain, was used for all initial tests. If there was sufficient serum, positive tests were repeated in dilutions ranging from 1-10 to 1-10,240, and with caprine and porcine strains of Brucella abortus. All sera which showed hemolysis were discarded.

RESULTS

Of 399 samples of blood sent to the bacteriology laboratory of Lane and Stanford hospitals for the Widal test over a period of approximately eight years, only three (0.75 per cent) agglutinated Brucella abortus. Two of these were from patients who lived outside of the city of San Francisco; one, from a child who was known to have drunk raw milk, agglutinated the porcine strain in a dilution of 1-640; the other, from a farmer engaged in raising cattle in the San Joaquin Valley, in the vicinity of Stockton, agglutinated the porcine strain in a titer of 1-20,480. No information is available concerning the third patient, whose serum agglutinated the bovine strain in a dilution of 1-640.

No positive agglutination tests for Brucella abortus were observed in 1,631 blood serums received from the Wassermann Laboratory of Lane and Stanford hospitals over a period of seven months.

Thus, of a total of 2,030 serums collected in our institution, three (0.14 per cent) agglutinated Brucella abortus in titers ranging from 1-640 to 1-20,480.

Of, 1,336 specimens of blood serum received from Kern, Orange, and San Bernardino counties over a period of three months, twelve (0.89 per cent) contained agglutinins for Brucella abortus. Of 373 specimens received from San Bernardino County, two (0.53 per cent) were positive; of 522 specimens received from Kern County, only two (0.38 per cent) agglutinated Brucella abortus; and of 441 specimens received from Orange County, eight (1.81 per cent) were positive. The titers of the positive sera varied from dilutions of 1-80 to 1-2,560.

Therefore, of a total of 3,366 human blood serums collected from urban and rural communities in California, fifteen (0.44 per cent) reacted with Brucella abortus in a dilution of at least 1-80.

Referring to Table 1, it will be found that of a total of twelve reactors, seven were males and five were females. Three fell within the 20 to 29 age group, three within the 30 to 39 age group, one in the 40 to 49 age group, and two in the 50-59 age group. The ages of three are unknown.

Table 1.—*Human blood serums received from rural communities which gave positive agglutination tests with Brucella abortus in titers of 1–80 or higher.*

Patient	Sex	Age	Occupation	Contact with Domestic Animals	Use of Raw Milk	Use of Pasteurized or Canned Milk	Agglutination Titers Brucella Abortus		
							Bovine	Caprine	Porcine
H. K.	M.	34	Farmer	Milked cows in Kansas prior to August 1931	Sometimes		1-320	1-160	1-160
C. H. S.	M.	24	Interne		1 pint daily		1-160	1-320	1-160
R. A. D.	F.	?	?	?	?	?	1-160		1-80
H. R.	F.	21	Housewife		On cereals only	Pasteurized milk—on cereals only	1-160	1-160	1-160
R. S.	M.	23	Laborer	?	?	?	1-640	1-160	1-160
W. H. B.	M.	?	Service station operator		Small amount daily		1-5120	1-640	1-2560
R. A. A.	M.	30	Oil worker		1 glass cream daily. Very little milk		1-80	1-40	1-80
J. B.	F.	?	Housewife		½ pint daily		1-2560	1-640	1-2560
A. K. H.	M.	30	Florist		Used daily but in no certain amount	Pasteurized milk daily but in no certain amount	1-2560	1-640	1-640
H. J.	M.	53	Tractor driver	Patient sold dairy herd in Kansas because contagious abortion present	Five or six glasses daily		1-320	?*	?*
S. R.	F.	52	Housewife			One pint to one quart pasteurized milk daily	1-80	?*	?*
M. C.	F.	42	Packer			Canned milk	1-80	1-40	1-80

* There was insufficient serum to run tests with the caprine and porcine strains.

As to occupation, three were housewives and there was one each in the following occupation groups: hospital interne, florist, farmer, laborer, service-station operator, oil worker, tractor driver, and packer. The occupation of one was unknown. Two individuals had had contact with dairy cows, one of whom knew that his herd was infected with infectious abortion. Eight used raw milk or cream. Positive agglutination tests with the bovine strain of Brucella abortus checked fairly closely with the caprine and porcine varieties.

COMMENT

The percentage of positive results reported in this study is low as compared with the findings of many investigators, but checks favorably with the results of those who considered titers of at least 1-80 or 1-100 to be of diagnostic significance. In addition to the positive reactions already reported, there was a group of twenty-five serums that agglutinated Brucella abortus Burr in dilutions of 1-5 and 1-10, a few reacting in dilutions of 1-20 and occasionally in slightly higher dilution. These tests were all negative when repeated with the three types of abortus antigen and, had they been included, the percentage of reactors in our total number of 3,366 sera would have been raised from 0.44 to 1.18 per cent.

The findings of this investigation indicate that the incidence of Brucella infection is greater in rural districts than in the city. That no positive tests occurred in the Wassermann series collected in San Francisco is not surprising, as pasteurized milk is generally used in the Bay region, there being relatively little raw milk except certified milk on the market. It was an interesting observation that positive reactions in significant titers occurred in subjects from rural communities, including two of the Widal series in San Francisco. The highest titers occurred in individuals who used raw milk or cream, or who came in contact with domestic animals, whereas the low titers occurred generally in persons who ordinarily used pasteurized or canned milk.

CONCLUSIONS[*]

In this study, an agglutination titer of at least 1-80 was considered to be diagnostic of Brucella infection.

Of 2,030 human serums representative of a city population collected in various departments of the Stanford Medical School, three (0.14 per cent) agglutinated Brucella abortus in a titer of at least 1-80, two of which were known to be from individuals living outside of the city of San Francisco. Of 1,336 specimens received from rural communities, twelve (0.89 per cent) were positive for Brucella abortus. Of the collective total of 3,366 human serums from rural and urban communities, fifteen (0.44 per cent) reacted with Brucella abortus in a titer of at least 1-80 or higher.

These results show that there is a greater incidence of Brucella abortus agglutinins in human blood in rural than in urban communities in California.

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DISCUSSION

K. F. Meyer, Ph.D. (Hooper Foundation, University of California, San Francisco).—The careful study on the Brucella agglutinins by Miss C. E. Peterson furnishes ample evidence against the so-called nonspecific agglutination. The data presented leave no doubt that the presence of agglutinins against the Brucella varieties is chiefly met within areas in which the infection is endemic in the livestock, and human exposure by contact or ingestion is not infrequent. It is now universally recognized that the occurrence of agglutinins in the sera of human beings is, in reality, the result of infection, and not the expression of nonspecific agglutination. In order to secure some information relative to the frequency of human brucelliasis, a great many laboratories have conducted agglutination tests on the sera which had been submitted for the Widal test.

In accepting a titer of 1:100 and above as diagnostic, the following figures have been reported:

	Per Cent
Denmark (Kristensen, 1931)	9.8
Sweden (Olin, 1931)	0.5
Norway (Vogelsang)	2.0
Esthonia (Schlossmann, 1931)	4.5
Ireland (Bigger, 1932)	2.0
England (Wilson, 1932)	3.5
Switzerland (Grumbach, 1933)	6.1

On the other hand, the systematic examination of sera collected from afebrile persons detected not only the manifest, but also the latent infections. The figures, which were thus obtained, reflect to a certain extent the endemization of an occupational group, or certain population strata. Wilson (1932) has admirably reviewed the literature. He finds that in the United States approximately 2 per cent in 20,000 serum tests yielded agglutination reactions in dilutions of from 1:40 to 1:50, in Great Britain and Ireland 1.4 per cent in 6,600 tests. In Sweden, Olin found 6.1 per cent of 3,000 Wassermann sera positive. These serologic surveys have never taken into consideration the natural population grouping, since relatively few sera of children are submitted for the Wassermann test. Further, the persistence of the agglutinins, following a manifest or latent infection, are not known and for each case are doubtless of variable duration. Assuming that the agglutinins persist for approximately two years, the two per cent positive sera would justify the conservative estimate that approximately one per cent of the population suffers annually from clinical or latent brucelliasis.

Somewhat more instructive are the detailed serologic studies which have been made on occupational groups exposed to the risk of Brucella contact infections. Employees of slaughterhouses, of the dairy trade, and of stock farms, and groups of veterinarians have been tested. The percentage of positive agglutination reactions in 4,128 was on the average 15.6 per cent. However, it must be emphasized that neither the agglutination nor the complement fixation reactions furnish a true picture of the number of latent infections in an occupational group. In all probability the same holds true for the population as a whole. With the aid of the allergic skin and the phagocytic index test, the percentage of latent infections in the personnel connected with the meat-packing industry may be as high as 91 to 95 per cent.

The significance and the interpretation of the Brucella agglutination reaction is quite often a matter of considerable difficulty. It demands the closest coöperation between the clinician and the serologist. In doubtful cases it should be combined with the complement fixation and the phagocytic index test. The allergic skin test requires tested reagents and a great deal of experience.

COMPARATIVE CARCINOGENIC POTENCY OF COMMON AGENTS

By Emil Bogen, M.D.
and
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Olive View

THAT malignant tumors often develop at the site of repeated or continuous irritation of tissues has been observed by clinicians and investigators for a long time, both in animals and in man.[1] Not every form of chronic irritation, however, is capable of producing cancerous changes. Most workers who have used physical and chemical nonspecific irritants have failed to observe true malignant changes.[2]

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[*] *Acknowledgement.*—The author wishes to express her sincere thanks to Dr. Joe Smith, health officer of Kern County; Dr. K. H. Sutherland, health officer of Orange County; Dr. S. B. Richards, health officer of San Bernardino County; Dr. Louisa Bacon of the Clinical Laboratory of the San Bernardino County General Hospital; and Miss Riva Davis of the Wassermann Laboratory of the Lane-Stanford Hospitals, for their kind coöperation in supplying us with the specimens of blood serum which have made this study possible.

Table 1.—*Comparative Carcinogenic Potency of Common Agents*

Substance	Mice Surviving Six Months	Tumors Developed		Average Incubation Months
		Benign	Malignant	
1-2-5-6 Dibenzanthracene	33	1	16	11
Tar A	34	3	17	10
Coal Tar	6	0	6	8
Tar B	9	2	2	15
Asphalt	8	0	2	30
Tobacco tar	27	2	0	....
Pine tar	6	0	0	....
Nicotine	11	0	0	....
Lard oil	5	0	0	....
Sour cream	5	0	0	....
Nitric acid	5	0	0	....
Hydrochloric acid	5	0	0	....
Sodium hydroxid	7	1	0	....
Pinching	6	1	0	....
Cutting	7	0	0	....
Burning	6	2	0	....
Pressure	3	0	0	....

NATURE OF THE EXPERIMENTS

At the hospital in which we work, during the past few years white mice, with a known low incidence of spontaneous tumors but which were known to yield a high incidence of true tar tumors, were subjected to various nonspecific types of irritants. . . .

Although some warty growths appeared in a few of these animals, in no case did a true cancer develop, and most of the warts regressed spontaneously in spite of the continuance of the irritant. In one of six mice treated with 10 per cent sodium hydroxid, as directed by Narat,[3] a tumor developed within four months, but its exact nature was not made out. Recognizing that with larger numbers of animals we might have observed more tumors, and even malignancy, we cannot but be impressed by the extreme infrequency with which this may occur.

Known active carcinogenic agents, on the other hand, produce a much more positive effect.[4] After several applications of an active gas-house tar to the back of white mice, for example, there is usually an epilation, or local loss of hair, sometimes associated with transient generalized loss of hair, which, however, usually soon returns. The local area, however, becomes permanently bald, and the skin becomes dry, thickened and rough. After a number of months, however, papillary warty growths appear in the tarred region, slow growing, well confined, and tending to recede and disappear if the tarring is then stopped. Some of them, however, after a varying time, suddenly take on an accelerated growth rate, invasive character, and general malignant features.

CHARACTERISTICS OF THE INDUCED CANCERS

Such induced cancers are typical epithelial neoplasms, showing histological criteria of malignancy, such as frequent mitotic figures, atypical cell size and shape, irregular nuclear patterns, and irregular conformation and invasion of normal tissues and blood vessels. There are usually clinical evidences of malignancy also, such as invasion, resulting in death of the animal if the tumor is not removed; metastases, usually late, however, recurrence after incomplete removal; and in a number of instances growth on transplantation through a series of related mice.

RELATIVE ACTIVITY OF CERTAIN SUBSTANCES

Extensive experiments have shown that not all such tars are equally effective in producing tumors in white mice. It was our purpose to determine the relative activity of a number of substances in the production of such tumors. Kennaway and Cook, in their epoch-making researches in the past few years, discovered that the pure crystalline substance 1-2-5-6 dibenzanthracene is a powerful carcinogenic agent.[5] Accordingly, we procured some of this substance and have used it as a control.[6]

When applied to the skin of white mice in 0.3 per cent solution in benzene, 1-2-5-6 dibenzanthracene does not manifest the marked local irritant effects of most crude tars. The epilation, thickening and roughening of the skin, are usually much less prominent. At about six months after the treatment has started, however, the warty papillomata develop, just as with the tars, and within a few months more malignant change is almost always evident.

Altogether, more than five hundred mice have been used in this investigation, divided into numerous cages, usually with but five mice each. Treatments have been administered usually twice a week, but occasionally more or less often for special purposes. For all of these experiments young mice of from three to six months of age were taken from a homogeneous stock of white mice with a very low incidence of spontaneous tumors. The few mice still surviving in this experiment are all well past the minimal time for the appearance of tumors, none of them now being less than a year old.

The long time required for the tumors to appear results in a comparatively high mortality rate from other conditions during the period of observation. In addition, many of the substances used for the study are themselves somewhat toxic, and kill off the mice at an earlier age than would otherwise have been attained. The majority of the mice developing cancers died of the tumor itself, or of the attempt at operative removal of it. On the other hand, some of them continued to carry warty growths for many months, and in some instances the dry warty growths dropped off spontaneously, or were destroyed by ulceration, or were absorbed. Some tumors, histologically malignant, were surgically removed with recovery of the mice, which continued to live for as much as a year more without showing any further signs of tumor growth.

FACTORS IN TUMOR FORMATION

The most important factor determining whether a tumor will form is the chemical composition of the material applied.[7] The 1-2-5-6 dibenzanthracene produced tumors in about half of all of the mice surviving six months of treatment, and nearly all of these exposed for a full year. A preparation of gas-house tar (called Tar A), obtained through the courtesy of the Crocker Institute, and a pharmaceutical pure coal tar gave an even higher score. On the other hand, only a third of the mice treated with another gas-house tar (called Tar B), and a fourth of those treated with a California roofing asphalt, developed tumors. Vegetable tars, such as pine tar and tobacco tar,[8] nicotin, lard oil, and sour cream, as well as the chemical and physical nonspecific measures attempted, were completely ineffective.

Other factors affecting the frequency in the development of tumors, as shown in this study, are:

1. *Concentration of the Agent.*—Small differences, as Woglom [4] showed, are unimportant, and 50 per cent suspensions are more easily handled and less toxic than pure tars, with equal results. On the other hand, greater dilutions lead to less frequent tumors.

2. *Frequency of Application.*—The tar may remain for some time after application, but tends to be less effective, and the more often it is applied, up to once daily, the earlier are the tumors. Previous epilation of the treated area, removal of dried material from previous applications, heating the tar before applying it, or injuring the site of application, may all affect the efficacy of a preparation, but the differences are slight.

3. *The Medium, in which the Tar Is Applied Is of Some Importance.*—Glycerin, which Woglom and Herly [9] used with Tar A, is a poor solvent for most tars. Benzene, which Kennaway advises with 1-2-5-6 dibenzanthracene, is irritating and toxic in itself, so that the mice must be kept in the open when it is applied. We have used chloroform and ether for some purposes, with good results. Lard oil seemed to lessen the frequency of the tumors formed.

4. *Treatment of the Tar Has Been Reported to Change Its Properties.*—Passing a current of steam through Tar A to remove phenols and other toxic impurities does not seem to affect its carcinogenic properties.

5. *The Strain of Mice Used.*—Strains of mice, with both high and low incidence of spontaneous tumors, have been used with no observable difference in results; but other workers report significant differences between various strains.

COMMENT

It appears that cutaneous cancer in mice is not a general reaction of the tissues to any type of prolonged irritation, but that it is more specifically induced by certain special kinds of complex unsaturated organic compounds. These may arise in the external environment, and come in contact with or enter the body; or they may arise themselves as a result of biochemical reactions within the tissues.

The prolonged exposure to gas-house tars and other industrial agents, as well as the application of crude coal tar in medicaments, have resulted in the development of cancers in man. The prolonged incubation period of occupational cancers and the shifting industrial population retards recognition of such instances. It has not yet been demonstrated to what extent the widespread use of asphalt, which we have found carcinogenic in our experience, may be responsible for the development of pulmonary carcinoma.

The use of white mice enables us to detect carcinogenic properties in substances within a small fraction of the time required for the development of malignant neoplasms in man. That there are many forms of cancer for which the responsible agent cannot now be named certainly should not deter us from attempting to minimize, so far as possible, the exposure of human beings to those agents whose carcinogenic properties may be demonstrated in so simple and conclusive a manner. Further work should be undertaken with other substances which may play a part in the development of cancers in man, and measures should be taken to prevent such occurrences.

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PERTUSSIS—ITS BACTERIOLOGICAL DIAGNOSIS*

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Discussion *by A. P. Krueger, M. D., Berkeley; Francis Scott Smyth, M. D., San Francisco; Edward B. Shaw. M. D., San Francisco.*

THE subject of these remarks is pertussis and a laboratory aid for its diagnosis, the value of which it is desired to point out. The name pertussis, rather than whooping cough, is used advisedly; for so many of the cases never whoop. This common epidemic and endemic disease may at first seem a rather homely subject not worthy of much consideration. Good precedent, however, for calling attention to it at this time exists. Reference is made to a recent editorial in *The Journal of the American Medical Association.*[1] Therein it is pointed out that, whereas public health measures and preventive medicine have succeeded in reducing the incidence of and mortality from diphtheria and enteric fever, such measures have so far failed to decrease the toll of deaths from whooping cough and measles. It is pertinent, therefore, to report that the American Public Health Association has recently appointed a committee for the study of diagnostic and immunization techniques in pertussis.

Statistics indicative of the seriousness of this disease are presented in Chart 1.

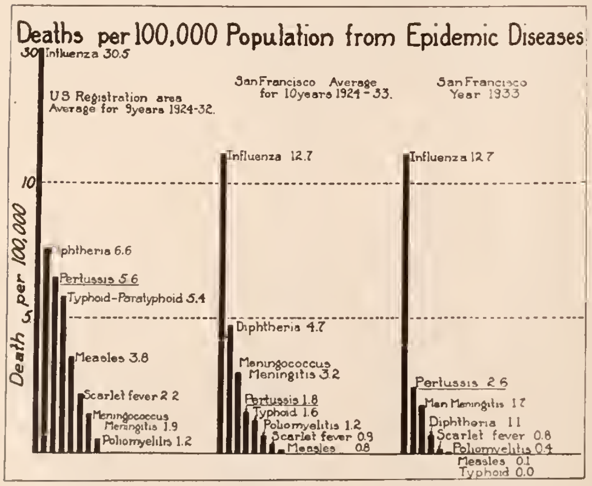

Chart 1.

PERTUSSIS MORTALITY IN REGISTRATION AREA AND IN SAN FRANCISCO

The first chart shows the mortality from pertussis in the United States Registration Area and in San Francisco.

On the left hand side of the chart are shown the average number of deaths per 100,000 population due to epidemic diseases in the United States Registration Area for the nine years from 1924 to 1932. Influenza caused far and away the highest mortality. Diphtheria was next, and pertussis third with 5.6 deaths per 100,000. During the years 1926, 1927 and 1928 there were 9,128 deaths from pertussis, 67 per cent of which were in the first year of life. The case fatality rate for this nine-year period was 3.7 per cent.

In the center is shown the average death rate in San Francisco for practically the same period of time, namely, the ten years' period between 1924 and 1933. It is immediately evident that deaths in San Francisco from epidemic diseases were far less frequent. The mortality from every disease listed was less here than in the United States as a whole, with the exception of that from meningo coccus meningitis. The high figure of 3.2 for this disease is due to the local epidemic of 1928. Pertussis is seen to rank fourth in importance. This markedly lower figure of 1.8 deaths per 100,000, as compared to 5.6 for the registration area, is not due to a markedly lower morbidity, but to other factors. Climatic conditions probably tend to decrease the likelihood of complicating pneumonia. The case fatility rate in San Francisco is only 1.6 per cent as compared to 3.7 per cent in the entire United States Registration Area.

On the right side of the chart are shown the deaths per 100,000 in San Francisco last year. Particularly noticeable is the very marked drop in diphtheria deaths due to the immunization campaign. Furthermore, no deaths were recorded from typhoid fever. Public health measures for the eradication of these two diseases left pertussis as the second most fatal epidemic disease.

These mortality rates for pertussis, however, are deceiving and appear more favorable than they really are; for, to quote the editor of *The Journal of the American Medical Association,*[1] many pneumonia deaths occurring in the course of pertussis are reported solely as deaths due to pneumonia.

In another respect these data by no means tell all the story of the seriousness of this disease. For example, quiescent hilar gland tuberculosis is very often converted into active parenchymatous or hilar tuberculosis by an attack of pertussis. Cerebral hemorrhage, during the severe paroxysms, not infrequently results in residual cerebral palsies or imbecility.

ETIOLOGIC AGENT OF PERTUSSIS

The etiologic agent of pertussis is the hemophilic bacillus, hemophilus pertussis. It is only within the past year that this small gram-negative organism, described in 1906 by Bordet and Gengou,[2] has been definitely established in the causal rôle. Al-

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though in Denmark the Bordet-Gengou bacillus has routinely been isolated from the great majority of cases for eighteen years, skepticism had been voiced as to whether it really caused the disease. This skepticism was based on failure to reproduce the disease in laboratory animals, and on the demonstration by McCordock [3] and Rich [4] of inclusion bodies in the lungs of fatal cases. Inclusion bodies suggested a virus infection. However, attempted transmission experiments with bacteria free filtrates have failed to elicit the disease.[5, 6] Similar inclusion bodies were later described by McCordock and Smith [7] in chronic pneumonia not associated with whooping cough. The pulmonary inclusion bodies described cannot, therefore, be considered as evidence of a virus etiology of the disease. Furthermore, Koch's third postulate, that is, reproduction of the disease with a pure culture, was finally fulfilled by Shibley.[8] He produced typical whooping cough in a chimpanzee, with a strain of Bordet's bacillus which had been subcultured more than sixty times. The incubation period was nine days. During the height of the disease, after the ape had actually whooped, it was killed. Autopsy findings were the characteristic catarrhal tracheitis, bronchitis, peribronchiolitis and acute emphysema. Culture of the bronchi and bronchioles yielded the Bordet-Gengou bacillus. Shortly before this, Macdonald and Macdonald [6] had completed a daring and quite convincing experiment. They vaccinated two boys, in a family of four brothers, with the Phase 1 pertussis vaccine of Sauer.[9] Five months later all four boys were inoculated intranasally with a filtrate of a fresh culture of Bordet's bacillus. They remained free from symptoms for eighteen days, at which time they were reinoculated with a suspension of living organisms. The two unvaccinated boys developed whooping cough seven days later. Hemophilus pertussis was recovered from them by cough plate, and their sera showed specific complement fixing antibodies. The two vaccinated boys had no symptoms.

These experiments of Shibley and the Macdonalds have therefore settled the twenty-seven-year-old argument by convicting the bacillus of Bordet and Gengou as the cause of pertussis.

The organism may be cultivated from a sample of sputum, but the so-called cough plate method used in obtaining the above results is simpler and more reliable in the early stages. This method was suggested by Mauritzen at the Serum Institute in Copenhagen, and was first employed there by Chievitz and Meyer,[10] in 1916. The patient simply coughs on a petri dish of potato-glycerine-blood agar. The dish is held six inches from the patient's mouth and should be coughed on for fifteen seconds. The media is sprayed with droplets. Obviously colonies of bacteria representative of the flora of the patient's respiratory tract will grow out. If the Bordet-Gengou bacillus is present in the droplets sprayed on the media, colonies will appear after forty-eight to seventy-two hours of incubation. Occasionally four days are required. Plates should be incubated as soon as possible after exposure. Identification of the Bordet-Gengou bacillus is made by its colonial and microscopic appearance, which are peculiarly constant if the media is properly made. Slide agglutination tests are resorted to if doubt exists. For details, reference may be made to the papers noted in Charts 2 and 3 (11 to 20 inclusive). Only minor differences in the media and technic of isolation are recorded. The author of this article used the Standard Danish technic described by Madsen,[11] but cannot assert that it is best. A good summary of the morphological characteristics of the Bordet-Gengou bacillus is that of Sauer.[15]

Incidence of Pertussis Cases found Positive by the Cough Plate Method
Classified as to Stages of Disease

		Madsen 1924	Lawson and Mueller 1927	Debre' Marie and Pretet 1930	Kristensen 1933	Sauer 1933	Stallings and Nichols 1933
Catharrhal stage		75%	59%	86%	65%	88%	80%
Paroxysmal stage in weeks	1st	57%	53%	55%	58%	64%	84%
	2nd	61%	33%		52%		77%
	3rd	45%	38%		40%		73%
	4th	40%	15%		34%		66%
	5th	9%	6%		7%		
Total cases		914	533	66	2144	400	217
Total plates used		?	?	?	2144	?	?

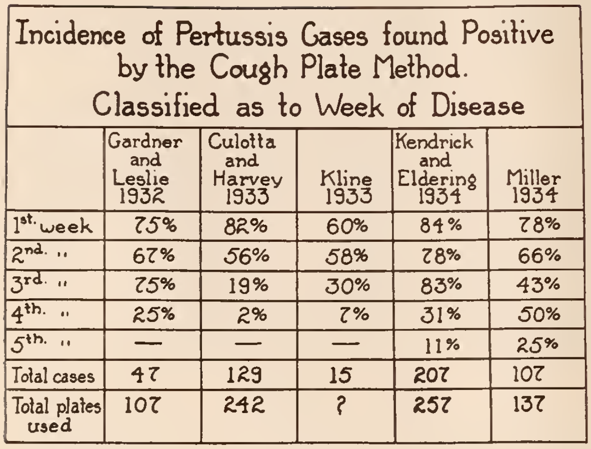
Chart 2.

DEFECTS IN THE BACTERIOLOGIC TESTS

In considering this laboratory aid, its defects must be mentioned. The first defect is the one common to many bacteriological tests. A single negative test does not mean anything. Isolation of the organism makes the diagnosis. Failure to isolate it leaves one out of patience with the laboratory. The second defect is the time required for growing out and identifying the etiological agent. This can in part be remedied if pertussis is considered as a possibility early in the course of a bronchitis. If one waits a week before taking a cough plate, it is not surprising that the diagnostic paroxysm may appear before the bacteriological report is returned.

DEMONSTRATION OF HEMOPHILUS PERTUSSIS

The frequency with which hemophilus pertussis has been isolated in the catarrhal and paroxysmal stages of the disease is shown in Chart 2. The results reported by Madsen [11] embrace the work begun by Chievitz and Meyer at the National Serum Institute in Copenhagen in 1916. The large series of cases reported by Kristensen [14] is a summary of data obtained in the same laboratory for the years 1924 to 1932. The cough plate in Denmark is a routine public health procedure. The plates are exposed by physicians or parents, who then take or mail them to the Institute. The medical and lay public have been educated to the idea that any cough may be pertussis. The high incidence of positive plates reported by Sauer,[15] and by Stallings and Nichols,[16] is probably in a measure due to the fact that the plates were exposed by these workers themselves or by trained assistants.



Incidence of Pertussis Cases found Positive by the Cough Plate Method. Classified as to Week of Disease

	Gardner and Leslie 1932	Culotta and Harvey 1933	Kline 1933	Kendrick and Eldering 1934	Miller 1934
1st. week	75%	82%	60%	84%	78%
2nd. "	67%	56%	58%	78%	66%
3rd. "	75%	19%	30%	83%	43%
4th. "	25%	2%	7%	31%	50%
5th. "	—	—	—	11%	25%
Total cases	47	129	15	207	107
Total plates used	107	242	?	257	137

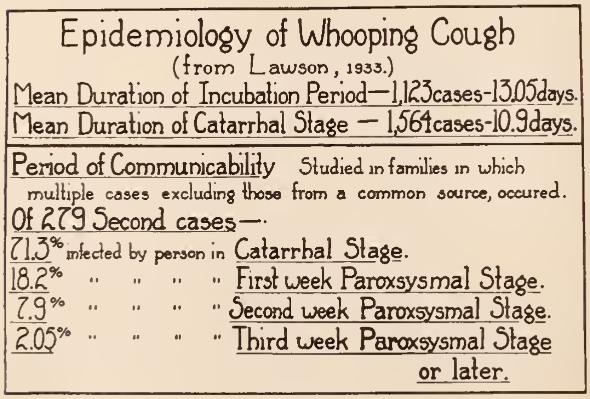
Chart 3.

OTHER METHODS OF CLASSIFICATION

Chart 3 shows the incidence of cases found positive by other workers who classified their results in a different manner—for example, as to the week rather than the stage of the disease. The day of the first cough of any kind was considered the day of onset of the disease. The high percentage of positive plates obtained by Kendrick and Eldering[20] of the Michigan State Department of Health at Grand Rapids may be laid in a measure to the fact that the plates were taken by public health nurses, who had been trained in the technic. Pertussis cough plates are a public health procedure there. In fact, they are at times used for release from quarantine.

The salient point of all these data is obvious. The causal organism is readily isolated during the first two weeks of the disease. We have on several occasions obtained positive plates on the very first day of cough. Kline[19] has reported a positive plate in an exposed child two days before the onset of any cough. After the typical paroxysms of whooping begin, the organism is isolated with less and less frequency. Carriage of the Bordet-Gengou bacillus almost always ceases by the end of the fifth week of the disease. Lawson and Mueller[12] isolated the organism from one case in the eighth week of the disease, and Kristensen[14] reported a positive plate in the eleventh week.

These bacteriological data are in accord with the important epidemiological observations of Lawson[21] shown in Chart 4. In a study of over one thousand cases he determined that the mean duration of the incubation period was 13.05 days. Similarly, he found the mean duration of the catarrhal stage was 10.9 days. He then studied the period of communicability in families in which multiple cases, excluding those from a common source, occurred. Knowing the date of onset of 279 second cases, he was able to infer that 71.3 per cent of these were infected by a person in the catarrhal stage, 18.2 per cent were infected by a person in the first week of paroxysmal stage, 7.9 per cent by a person in the second week of the paroxysmal stage, and only 2.05 per cent by a person in the third week of the paroxysmal stage or later.



Epidemiology of Whooping Cough
(from Lawson, 1933.)
Mean Duration of Incubation Period—1,123 cases-13.05 days.
Mean Duration of Catarrhal Stage — 1,564 cases-10.9 days.

Period of Communicability Studied in families in which multiple cases excluding those from a common source, occured.
Of 279 Second cases—
71.3% infected by person in Catarrhal Stage.
18.2% " " " " First week Paroxsysmal Stage.
7.9% " " " " Second week Paroxsysmal Stage.
2.05% " " " " Third week Paroxsysmal Stage or later.

Chart 4.

POTENTIAL VALUE OF THE COUGH PLATE

From a public health point of view, therefore, the potential value of the cough plate is obvious. Its general use permits diagnosis during the period of greatest infectivity, namely, the catarrhal stage. This period can rarely be diagnosed by physical signs or by a blood count. The characteristic hyperlymphocytosis does not appear until the paroxysms, as Thelander and her associates[22] have shown. When quarantine has to be delayed until the diagnosis can be made on clinical grounds it is small wonder that it is of little value in curbing the spread of an epidemic.

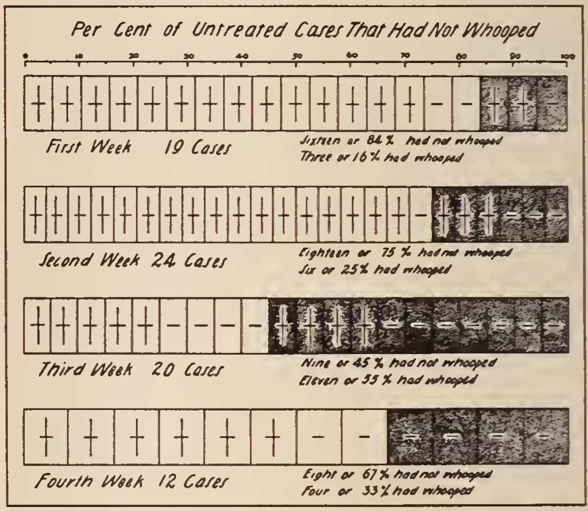


Chart 5.—The positive and negative signs refer to the cough plate. The cases are classified by the day on which the first (and usually only) plate was obtained.

DATA FROM SERIES OF CASES IN BERKELEY

Chart 5 was compiled from data obtained in Berkeley last year on a limited number of cases which had received no specific prophylactic or therapeutic treatment prior to exposure of the cough plates. It is of interest in that it shows the variability of the duration of catarrhal period.

Of nineteen cases tested during the first week of symptoms, that is of a cough, three had already whooped. Of the sixteen that had not whooped, fourteen had positive plates.

Twenty-four other untreated cases were first seen and tested in the second week of their cough. Of these eighteen, or 75 per cent, had not yet whooped. All but one had a positive plate. Six had begun to whoop. From only three of these did we obtain that causal organism.

Twenty other untreated cases were first seen and tested in their third week of cough. Nine, or 45 per cent, had not yet whooped. Five of them showed positive plates. Of those that had already begun to whoop, only four had positive plates.

Twelve other untreated cases were first seen and tested in their fourth week of cough. Eight of them had not whooped. In six of these eight, the first and only plate was positive. Four untreated children who had already whooped had negative plates.

The diagnosis of the pertussis in patients with negative plates who had not whooped was ultimately made either by a tardy appearance of the whoop or by circumstantial evidence, such as having a brother or sister with either a positive plate or with clinical whooping cough or both. It is obvious that the ratio of eight patients who had not yet whooped to four patients who had already whooped, in the fourth week of the disease, is not a generality. We had few requests for bacteriological tests on whooping children. The diagnosis was obvious. As a matter of fact, these children were tested to see if quarantine was still necessary. Fifteen of the recorded cases tested bacteriologically, and found positive, never developed typical paroxysms. Seven of the fifteen received specific treatment after the cough plate was reported positive. Eight received no specific treatment. Three of the individuals who never whooped were adults.

ADULT PERTUSSIS

Adult pertussis must be commoner than records show. Cases with the typical paroxysms of whooping cough do occur. Hall[23] reported nineteen such cases in adults over fifty-five years of age, and suggests that elderly individuals may be more susceptible than the middle-aged. He mentions that Sir William Jenner almost died of it when over sixty-five. Cases without the typical paroxysms are, however, undoubtedly more common. The importance of these cases from a public health point of view is obvious. For example, in Denmark a school teacher with a chronic bronchitis was proven to be responsible for an epidemic in an isolated community. The writer has been able to culture eight parents of children with pertussis. All had moderate coughs. Hemophilus pertussis was recovered from three of these. Incidentally only one was quarantined.

INTERESTING CHARACTERISTICS OF PERTUSSIS

The data in Chart 5 illustrate three interesting characteristics of pertussis:

1. The marked variation in the duration of the catarrhal period, or the period of what might be called non-specific cough.
2. The greater potential infectivity of individuals in this period.
3. The difficulty of isolating the organism when the patient is having paroxysms. Apparently the height of the infection precedes the height of the disease. This in turn leads to speculation on the pathologic physiology of paroxysms.

THE BORDET-GENGOU BACILLUS

The secretion or excretion of an exotoxin by the Bordet-Gengou bacillus has not been demonstrated. Postmortem recovery of the organism from any place other than the respiratory tract has not been reported to the writer's knowledge. The bacillus is not invasive. It apparently remains localized in the respiratory tract. In 1909 Bordet and Gengou[24] demonstrated the toxicity of split products of their organisms by *in vitro* and *in vivo* tests, utilizing for the latter the peritoneal cavity of guinea pigs. They postulated that this endotoxin was liberated in the bronchial mucosa of man after lysis of the infecting organisms by local ferments. They expressed the opinion that the inflammatory changes and outpouring of tenacious mucus was due to the presence of this endotoxin.

This view is compatible with the bacteriological findings recorded, and would explain the difficulty of isolating the organism after the height of the disease is reached.

Recently, however, cutaneous hypersensitivity to the undenatured protein of the Bordet-Gengou bacillus has been observed by Stallings[16] and others during the disease. Furthermore, subcutaneous and intradermal administration of this protein solution—the H. pertussis undenatured bacterial antigen of Krueger[25]—has often apparently relieved the paroxysms during their height. (Frawley et al.[26].) The rapidity of this effect precludes the possibility of its being active immunization. The effect may be explained as a desensitization phenomenon, which in turn postulates that the paroxysm is a manifestation of hypersensitivity to the bacterial protein rather than a reaction to an inherently toxic split product.

Before closing the discussion of the bacteriological test for pertussis, it is of interest to know that by this means the author was able to prove an instance of two attacks of pertussis in the same individual. The second attack was one year after the first. The child did not whoop during the second attack. Positive plates were obtained both times. In three other instances positive plates were obtained from individuals with chronic atypical cough who, according to their physicians, had histories of typical whooping cough several years previously. Apparently the immunity conferred by one attack is not necessarily lasting.

SUMMARY

1. Pertussis is a widespread disease often attended by crippling or fatal complications. Since the immunization campaigns against diphtheria it has taken a position in the front rank as a cause of death among epidemic diseases.
2. It is a disease of adults as well as of children.
3. Only during the past year has the etiological rôle of the Bordet-Gengou bacillus been established beyond doubt.
4. Both epidemiological and bacteriological observations indicate that the period of greatest in-

fectivity is before the onset of the diagnostic paroxysms.

5. The diagnosis of the catarrhal stage or period of non-specific cough can only be made with certainty by bacteriologic examination. The method of choice is the so-called cough plate.

6. Generalized use of this procedure, with the dependence of quarantine regulations on it, are a logical step in the prevention of the spread of this disease.

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DISCUSSION

A. P. **Krueger**, M. D. (Department of Bacteriology, University of California, Berkeley).—Doctor Miller is to be commended for emphasizing in his paper not only the seriousness of pertussis, but the failure of public health measures, as instituted at present, to reduce its toll. The low immediate mortality connected with the disease has tended to cloak the incidence of serious immediate or remote sequelae. Among these secondary effects should be mentioned the true pneumonic process not infrequently produced by H. pertussis.

Doctor Miller's statements regarding the establishment of H. pertussis as the etiologic agent in whooping cough deserve particular attention. For many years after Bordet's work, the Bordet-Gengou bacillus was looked upon merely as a possible cause of whooping cough. The recent work of the MacDonalds and Shibley have proved beyond any question of a doubt that this organism is the causal agent, and that the disease is not produced by the combined attack of a virus and a bacterium.

From the viewpoint of practical epidemiology the cough plate finds its greatest utility in detecting the early case before establishment of the whoop and in revealing the disease in patients who never develop the characteristic whoop. Doctor Miller's efforts to popularize the use of the cough plate among the medical profession are certainly in the right direction, particularly when one realizes the great importance of patients in the catarrhal stage of the disease in spreading infection. Shedding of organisms in the bronchial secretion is greatest during the catarrhal period, which averages between ten and fourteen days.

It is coming to be more clearly recognized that the immunity following an attack of pertussis is not necessarily a solid one. Second attacks are not rare; and while many of these patients will develop the characteristic clinical picture of pertussis, a fair percentage of them will pass unrecognized as having nonspecific upper respiratory infections. The rôle of these missed second cases in spreading the disease is probably important, and here again free use of the cough plate would constitute a worthwhile public health procedure.

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Francis Scott Smyth, M. D. (University of California Hospital, San Francisco).—Doctor Miller's statistics, from our Public Health records, give us the hard facts regarding the importance of pertussis. Any parent or pediatrician can vouch further as to its distressing significance.

The department of pediatrics in the University of California, having coöperated in a phase of this problem, has had an opportunity to see the application of the cough plate in diagnosis. In some instances this diagnostic aid has been spectacular. I do not believe that we should continue to argue on organisms other than H. pertussis, but should make every effort to perfect the cough plate as a means of diagnosis. The next step, of course, is the program of prophylaxis and treatment. While, obviously, it will take considerable fundamental study, I believe such a program must be encouraged. As to the cough plate, while it presents certain difficulties, especially regarding careful preparation of media, we should hasten its adoption in the routines of health departments. This has already been done in Baltimore. I dare say that early in the adoption of the culture study of diphtheria there was necessary a certain amount of adjustment and education. The cough plate is of great value in both diagnosis and quarantine study, and should not remain in academic use only.

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Edward B. Shaw, M. D. (384 Post Street., San Francisco).—Quarantine, however well enforced, can never be the final answer to the problem of prevention of whooping cough, or of any of the common contagious diseases (measles, chicken-pox, poliomyelitis) in which the period of most intense communicability precedes the development of clinically recognizable symptoms. There is no doubt that a means of earlier specific diagnosis, such as the cough plate, is of great practical value and renders quarantine more effective through the earlier detection of cases, the recognition of atypical cases, and in providing evidence that our present period of quarantine is sufficiently prolonged.

The cough-plate method is not intricate. It is necessary only that proper media be supplied, that plates be carefully exposed and studied by an adequately trained bacteriologist. Unfortunately, the cough-plate diagnosis is insufficiently accurate to permit one to exclude the disease on the basis of a single negative report. It is to be earnestly hoped that advances in our knowledge of specific prevention and treatment will place an even greater premium on early and precise diagnosis.

It is worth pointing out that control measures are directed particularly to the protection of children of school age, whereas the most unfortunate sequelae of the disease are seen in still younger children and nurslings. For the protection of this younger group, ordinary quarantine precautions are of little significant value. During early years the only effective precaution is the isolation of the child from everyone who coughs. Only great improvement in treatment, or especially of prophylaxis, will materially reduce the dangers in this critical age group.

Our greatest error in the management of pertussis lies in our failure to regard the disease as really severe, and to regard the patient, with respect to quarantine and treatment, as a significantly ill child.

STRABISMUS—THE PRESENT STATUS OF ITS TREATMENT*

By George N. Hosford, M.D.
San Francisco

THIS paper will deal only with the most frequent or concomitant type of strabismus in which all the extra-ocular muscles are capable of contracting; but due to various factors the visual axes are not in a state of parallelism, nor can they be brought to the normal position by the volition of the patient.

UNDERLYING PRINCIPLES

The principles underlying the treatment of this condition are by no means new and really date from the publication of Donders' monumental work on "The Accommodation and Refraction of the Eye," in 1864. It was he who recognized one of the principal factors in the etiology, namely, that in hyperopia (farsightedness) an abnormal effort on the part of the ciliary muscles is necessary in order that clear images may be received on the retinae and that, due to the anatomic and physiologic linkage between the functions of accommodation and of convergence (both are actuated by stimulation of branches of the third nerve), an excess of convergence is an inevitable by-product of the abnormal effort required, which results in the crossing of the visual axes.

It is apparent that this excess of convergence, although equally distributed between the two eyes, cannot be manifest in both eyes at the same time. What happens, therefore, is that the dominant eye fixes the object which has attracted the patient's gaze, and the fellow eye deviates toward the nose to a degree which is roughly proportional, at least in its early stages, to the strength of the nerve impulse which actuates the adductor muscles of the eye. This position, which necessarily becomes habitual, soon results in secondary changes in the muscles themselves. The internal recti tend to become hypertrophied and spastic; the external recti to become stretched and attenuated.

Recent anatomical studies on the osteology of the orbits tend to show that the depth and inclination of the orbital walls may be factors in producing the hyperopia. Certain anomalies of length, strength, and attachment of the extra-ocular muscles do exist and account for a small percentage of ocular deviations of all sorts. Yet in non-paralytic squint, Donders' principle is always a factor which must be taken into account.

Sherrington's law of reciprocal innervation (the relaxation of the extensors when the flexors are stimulated, and vice versa) was a result, at least in part, of his work on the extra-ocular muscles, and modern students of the problems of strabismus utilize this knowledge, as will be shown presently.

IMPORTANCE OF EARLY CONSIDERATION

Strabismus of the type under consideration naturally manifests itself in childhood, sometimes very early. In the past, all too frequently general practitioners and pediatricians, following the teachings of oculists who were not particularly conversant with, or interested in, the problem, have advised no treatment until about the seventh year of age. This is obviously wrong. There is a rapidly growing recognition of the untoward psychological effects of strabismus, and a greater utilization of the principles of treatment which naturally follow from a study of the etiology is becoming more widely disseminated. It was obvious to Donders and his contemporaries that convex glasses, to minimize the accommodative effort, would have a favorable effect upon the excess convergence, and where strabismus does not develop too early, and too many secondary changes have not occurred before treatment is instituted, excellent results may be secured by the use of glasses. With the development of more accurate methods of refraction which are applicable to young patients, the percentage that can be cured or helped by means of glasses naturally increases. The fact that small uncorrected astigmatic components of the total refractive error exercise a relatively large stimulus to convergence is not sufficiently appreciated by most oculists at the present time. One-half a diopter of uncorrected astigmatism calls for a constant focusing and refocusing of the eyes, and here is one place where Sherrington's law becomes important. This small but constant accommodative effort is necessary even though all the spherical error has been corrected by glasses, and successful relaxation of the internal recti may hardly be expected unless this excessive stimulation is also removed.

SUBNORMAL VISUAL ACUITY OF SQUINTING EYES

It is well known that the visual acuity of squinting eyes is subnormal in about 90 per cent of cases. This is traditionally explained by the fact that when the visual axes are not both directed toward the object viewed, diplopia inevitably results. Diplopia, or double vision, is a very confusing and almost insuperable annoyance, as is clearly shown by the behavior of adults who suddenly acquire diplopia from the paralysis of one or more of the extra-ocular muscles. They instinctively cover one eye to blot out the confusing double images. It has, therefore, been assumed, because no histologic changes in the retina and visual pathways have been discovered to account for the poor vision, that the amblyopia is nature's method of overcoming the confusion which diplopia produces. The physiology and psychology of

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* From the Children's Hospital, San Francisco.

Read at the thirty-first annual meeting of the Nevada State Medical Association, September 22, 1934.

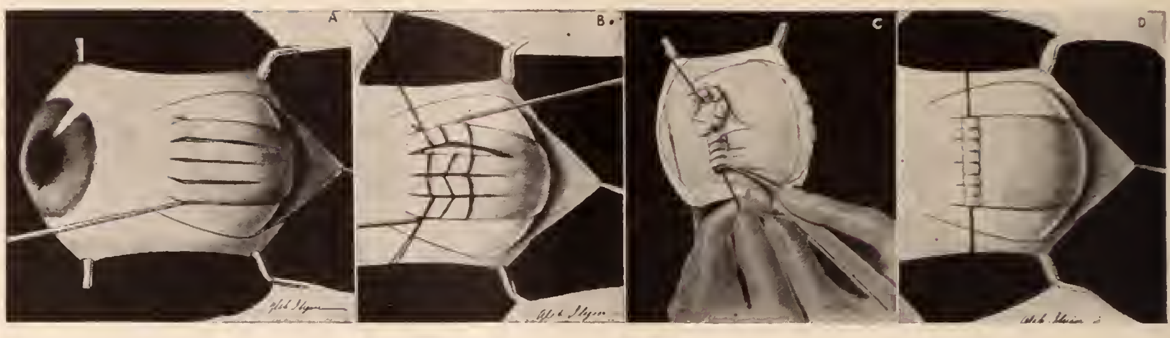

Fig. 1.—Details of the O'Connor cinch shortening operation: (a) tendon of externus exposed and separated into slips; (b) multiple suture in place; (c) transference of loops from suture to tendon slips; (d) transfer completed. The suture is cut off two or threee millimeters above the upper border and is allowed to protrude through the conjunctiva at the lower border so that it can be removed when tendon is solidly united in its new position.

the question, however, are far from a final elucidation. Poor vision (amblyopia) in one eye is not a desirable condition, and efforts are now exerted toward its prevention, although the means of preventing it were perfectly well known to Donders and his contemporaries.

ATROPINIZATION OF THE NON-DEVIATING EYE

Atropinization of the non-deviating eye is perhaps useful in very young children, where the degree of blurring produced by the atropine is great enough to reduce the visual acuity below that of the fellow eye. A weak atropine solution should be instilled daily or every other day for a period of a month. Six weeks without atropine should then be allowed to elapse. The non-deviating eye should then be atropinized again for a month. In suitable cases this will force the child to use one eye about as much as the other for fixation.

A more effective, but much more troublesome procedure is to bandage the non-deviating eye tightly closed for approximately half of the child's waking hours, while in extreme cases a permanent bandage for days at a time is required until the child is old enough to wear glasses, and longer if the vision in the deviating eye is below that in the fixing eye. There is no agreement among oculists as to when the time to wear glasses has arrived. My own experience indicates that glasses are well tolerated even in very young children (fifteen to eighteen months old) if they are accurately fitted and well designed. The same measures should be taken to insure the use of the deviating eye even after glasses have been prescribed, although under their influence the eyes may be apparently straight to casual observation. With this treatment a substantial number of deviations are cured and binocular vision secured.

WHEN LENSES DO NOT BENEFIT

A certain number of cases remain in which secondary changes have occurred or in which the deviation is too great to be completely relieved by glasses. These should be treated surgically. In the past, surgeons have been reluctant to operate much before the seventh year. The multiplicity of operations advocated for straightening eyes, since the first tenotomy for strabismus was performed in 1839, is eloquent testimony to the dissatisfaction of surgeons and parents with all operative results. Surgeons have come more and more to recognize that, if binocular vision is to be secured in this class of cases, the eyes must be brought into alignment early; but until the publication of the O'Connor technique in 1912 there was no thoroughly reliable method of accomplishing this.

FUNDAMENTAL PRINCIPLES IN OPERATIONS FOR CROSSED EYES

All of the seventy-one methods of straightening cross eyes, which are enumerated in the Graefe-Saemisch "Handbuch," with the exception of the O'Connor technique, depend upon one or more of the following fundamental procedures:

1. Free tenotomy, which is uncertain, and has justly fallen into disrepute.
2. Partial tenotomy, which is ineffectual when used as the sole operative procedure.
3. Resection of a portion of the long muscle and reattachment of the shortened distal end to the original insertion.
4. Advancement of the attachment of the long muscle upon the globe.
5. Recession of the short muscle upon the globe.
6. Some combination of these procedures.

All of the conventional resection, recession and advancement operations are open to grave objections. The fibers of the muscle all run parallel to its long axis, and in suturing the muscle back to the smooth, rounded surface of the sclera, almost insuperable difficulties are presented. Although it may be accomplished, it is obvious that if the sutures are tied too tightly constriction and sloughing will occur, and if they are tied too loosely

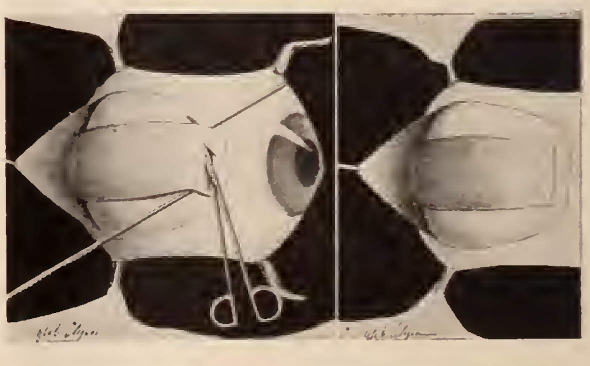

Fig. 2.—Details of central tenotomy of internal rectus: (a) tenotomy in progress; (b) finished tenotomy

slipping and loss of effect will certainly occur. It is conceivable that there is a middle zone between these two extremes that is effective, but it is unlikely that any surgeon will tie his sutures with just the degree of tension which will always prevent the occurrence of both unfortunate results.

In addition to the difficulty and possible ineffectiveness of scleral suturing, the hazards of perpetrating the sclera with the needle, particularly in the hands of a beginner, should not be overlooked. The sclera at the site where the long muscle must be reattached in the Worth operation is seven-tenths millimeter thick. Considerable skill is required to lay these sutures accurately and effectively. The hazard of penetration in the recession operation is even greater because the sclera beneath the insertion of the internal rectus near the equator of the eyeball is but 0.5 millimeters thick, and the possible exposure for laying sutures in this region is small.

These measurements are taken from Whitnall's figures, which were compiled from adult sclerae, and they are naturally, of course, somewhat smaller in young patients.

TUCKING OPERATIONS

In an attempt to overcome this very obvious difficulty, tucking operations were invented in the interests of safety, so that if the operation were unsuccessful the patient would, at least, be no worse than before operation. Tendon tucking operations are also open to the same objections mentioned above, viz., sloughing and slipping.

O'CONNOR OPERATION

The O'Connor procedure which obviates both difficulties is illustrated by Figures 1 and 2.

This technique will permit operation as early as two and a half years, and the prospects of securing binocular vision are thereby very greatly enhanced.

DEVELOPMENT OF BINOCULAR VISION

Most oculists agree that only in exceptional cases does binocular vision develop after the age of seven if it has not been present before this age. There is little prospect that binocular vision will develop spontaneously unless the eyes are reasonably close to the normal alignment so that, from every point of view, early operation is advisable.

EYE EXERCISES

In the past few years there has been a tremendous growth of interest in so-called eye exercises, or orthoptic training. Doctor Hicks and myself have been able to verify the observations which were made repeatedly by pioneer ophthalmologists that, until the visual acuity of the two eyes is approximately equal, although not necessarily normal (ratio of 20/20 in the better eye to 20/40 or 20/50 in the poorer eye) very little can be accomplished toward the stimulation of binocular vision by orthoptic training. Marlow has shown that the anatomical position of rest of the eyes cannot be permanently altered by exercise. Prolonged orthoptic training in a person with good binocular vision may improve the muscle balance temporarily. Nevertheless, a prolonged occlusion test will show that the eyes quickly revert to their original position of rest. These principles limit the applicability of this method of treatment to a small percentage of strabismus cases. Many oculists and optometrists who are enthusiastically exercising the eyes of their patients for a few minutes a day, seem to be totally unaware of these principles.

SUMMARY

1. The etiology of convergent concomitant strabismus is discussed.
2. The principles of treatment are enumerated.
3. The most important advance in the surgical technique of correcting cases which require operation is described.
4. Binocular vision is briefly discussed.
5. The principles which govern the success or failure of so-called eye exercises are recalled.

490 Post Street.

THE LURE OF MEDICAL HISTORY*

MR. JOHN HUNTER ON GENERATION † ‡

By Arthur William Meyer, M. D.
Stanford University

I

Further words about John Hunter, unless based on new sources, would seem to need justification. For me this lies in the surprising fact that the illustrations accompanying his notes on the development of the "chick of the goose" apparently have never been published, except that Owen included part of the series, in retouched form, in the "Physiological Catalogue," which is difficult of access. Moreover, Hunter's embryological studies still continue to be overlooked or are dismissed with a mere mention. In his new "History of Embryology" as well as in the large work on "Chemical Embryology," Needham gave John Hunter but scant attention and he was given still less in a recent volume on the history of embryology—"Die Embryologie im Zeitalter des Barock und des Rokoko"—by Bilikiewicz (1932). In this work John Hunter was mentioned only in a footnote, while the name of his brother William led the heading of a subdivision. The footnote concerned merely stated that John, the younger brother of William, helped him in the production of the work on the gravid uterus.

THE PLACE OF WILLIAM HUNTER IN THE HISTORY OF EMBRYOLOGY

It certainly does not seem just that William should be given a place in the history of embryology, and that John should be denied it. Whatever his share in the production of the rightly famous monograph upon which William's claim largely rests, John's efforts did not cease there. As Paget (1897) said, he ". . . studied the development of eggs, and pursued his studies for fifteen years; 'surely one might suppose that this was the great work of his life; yet it seems to have been rather a casual by-the-way pursuit.' " (p. 249.) I have not been able to learn how just it is to speak of John's observations on geese as casual, and whether those on bees which are said to have continued for twenty years also could rightly be called casual. However, it would seem that anyone whose interest in a subject was sufficiently enduring to last for almost four decades,* and who kept geese and bees for the sole purpose of study, probably gave the subject more than casual attention. The "Observations on Bees," it seems to me, well support this inference, which is also implied by the words of Sedgwick (1910), who wrote: "The great work of William Hunter on the human gravid uterus, containing unequalled pictorial illustrations of its subject from the pencil of Rymsdyk and other artists, was published in 1775; and during a large part of the same period numerous communications to the *Memoirs* of the Royal Society testified to the activity and genius of his brother, John Hunter, in the investigation of various parts of comparative embryology." (p. 325.)

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*A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department, and its page number will be found on the front cover.

† Because John Hunter occupies so large a place in the development of surgery, it is commonly but erroneously assumed that he had the title of Doctor of Medicine.

‡ From the department of anatomy, Stanford University Medical School.

THE LURE OF THE PROBLEM OF REPRODUCTION TO JOHN HUNTER

One could assume that such an inquiring, restless and fertile mind as John Hunter's could not fail to be attracted by the problem of reproduction. The *Essays and Observations on Natural History, Anatomy, Physiology, Psychology, and Geology,* contain fifteen pages under the heading, "Observations on Generation"; seventeen on "Progress and Peculiarities of the Chick"; sixty on the "Generation of Fish and Shellfish"; four on the "Generation of Insects"; eleven of "Notes and Queries on Generation" and twelve "On Monsters," making 119 pages in all. In addition, there are 116 pages in his "Observations on Certain Parts of the Animal Œconomy," reprinted from the Philosophical Transactions of the Royal Society, which may rightly be included among his writings on the broad topic of generation. It is true that some of the items contain much that we now include under anatomy and comparative anatomy, and other matters that belong under the heading of the physiology of reproduction; but it would be just as unfair to exclude these from consideration as in the case of Harvey or any of the other older writers. They all used the term "generation" to include what we now consider under the topic of reproduction and teratology, that is, the anatomy and physiology of sex, embryology and the formation of monsters.

JOHN HUNTER'S IDEAS AND OBSERVATIONS ON GENERATION

It is not my purpose to analyze or summarize all of Hunter's notes upon this subject, but merely to give adequate attention to some of his ideas and observations on generation. These concerned a number of species, and included observations and experiments upon cross-fertilization, castration and artificial insemination. Since he had the interests of a comparative anatomist, he made observations upon many different animals, although they often were not minute. Even in his twenty-year-long study of the bee, Hunter wrote: "The history of the bee has rather been considered as a fit subject for the curious at large, whence more has been conceived than observed. Swammerdam, indeed, has rather erred on the other side, having with great industry been very minute on the particular structure of the bee. I shall here observe that it is commonly not only unnecessary to be minute in our description of parts in natural history, but in general improper. It is unnecessary when it does not apply to anything but the thing itself, more especially if it be of no consequence; but whenever it applies, then it should so far be treated accurately. Minutiae, beyond what is essential, tire the mind, and render that which should entertain along with instruction heavy and disagreeable; the more so, too, if the parts are small, where the sense can only take them in singly, and the mind can hardly comprehend the whole or apply all the parts combined to any consequent action. This has been too much the case with Swammerdam; he often attempted too much accuracy in his description of minute things." (Animal Œconomy, p. 416.) In commenting upon these words, Owen rightly said: "If the objects of the comparative anatomist were limited to the elucidation of the function of the organs he dissected, there might then, perhaps, be some reason in the animadversions in the text; but his researches have a still higher aim, viz., to trace the general plan which pervades the construction of animals amidst the various modifications to which each organ is subject in reference to particular functions; and the study of organic homologies requires that attention be paid to the minutest particulars, independently of considerations as to the uses in the œconomy to which they may be subservient." (*Ibid.*)

HUNTER'S NOTES "ON THE PROGRESS AND PECULIARITIES OF THE CHICK"

It is not generally known that Hunter's notes "On the Progress and Peculiarities of the Chick," partly in his own hand, are among the few things that escaped the ruthless act of Home, and that they fortunately are still in the Archives of the Royal College of Surgeons of England. Moreover, it frequently is overlooked that these observations were not on the chick, but on the common goose. While undertaking these studies, Hunter said: ". . . I found the first appearances so obscure, from want of size in the object, that I had recourse to the progress of the chick in the egg of the goose. I attempted the swan, but it was impossible to procure such numbers as to give me all the necessary varieties. I endeavoured to procure ostrich's eggs, by having them sent to me in spirits; but as the getting such was only a matter of chance, and only one or two in thirty years! nothing could be made out from them. For this purpose, then, I kept a flock of geese for more than fifteen years, and by depriving them of their first brood in my investigations, they commonly bred again the same season." (Essays and Observations, *i*, pp. 205-206.) Hunter regarded the bird egg as so favorable an object for embryological study that he said ". . . It would almost appear that this mode of propagation was intended for investigation."

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* Hunter says that ". . . about the year 1755 or 1756," he ". . . was making drawings of the growth of the chick in the process of incubation" (Treatise on the Blood, page 107), mentioning in this connection experiments on the eggs of the duck and the hen; and one of the drawings illustrating his "Progress and Peculiarities of the Chick" bears the inscription, "St. Aubin Delineavit. 1793."

HUNTER'S DRAWINGS OF THE DEVELOPMENT OF THE CHICK

I was greatly surprised to find some years ago that "the Hunterian drawings of the development of the chick," which Sir Richard Owen said were preserved in the Royal College of Surgeons, had never been reproduced, except in part by Owen and a few by the editor of the Treatise on the Blood. Moreover, inquiry of several of the foremost historians of medical science brought no information regarding the matter. A request to have them photostated brought the comment from a London firm, that they also believed that the illustrations "have never been reproduced." Although some of the notes on the "chick of the goose" seem to be in Hunter's own handwriting, the illustrations apparently were made not by, but for him, notwithstanding they undoubtedly had his approval.

According to a letter from Stevens and Brown, who reproduced them for us, the following items on this subject are contained in the Library of the Royal College of Surgeons:

> "1. The original ms. of '*Progress and Peculiarities of the Chick,*' partly in Hunter's handwriting. (Printed in 'Essays and Observations' 1861 and in the concluding volume of 'Physiological Catalogue' 1840). *No illustrations in the ms.*
>
> "2. '*Description of Rymdyke's drawings of the incubation of the Egg.*' Ms., partly in Hunter's handwriting. Immediately preceding this ms. are five pages of illustrations in ink and six outlines of the large crayon drawings (about which the description is written), also in ink.
>
> "3. Five folios of a large volume on which are pasted pencil drawings, made for Hunter, but not drawn by him, and which illustrate his 'Progress and Peculiarities of the Chick.'"

Although Hunter's manuscript on "The Progress and Peculiarities of the Chick" contains many general reflections and deductions, it is accompanied by a total of 130 splendid drawings by Bell and St. Aubin and seems to have been based mainly on the chick of the goose. However, Hunter also studied the development of the chick of the hen. This is indicated by two sets of drawings accompanied by legends. The first of these sets is marked "Description of Rymsdyke's drawings of the incubation of the egg. In crayons framed and glazed," and a boxed caption on the second page contains the words: "The Outlines of the Drawings in the Frame of the Progress of the Chick." These comprise seven plates, containing twenty-five illustrations on the development of the chick, which are pen drawings by Rymsdyke, all accompanied by legends revised by Hunter and partly in his own hand. These drawings are sketches rather than finished illustrations and some of them are mere outlines, but none of them are accompanied by guide lines nor do they bear the letters used in the legends. They illustrate the unincubated hen egg and 15, 40, 46, 58, 69, and 93 hour and later stages in incubation. All of the illustrations apparently are renumbered in Hunter's own hand. The second "frame" of the drawings concerns oögenesis and is similarly captioned in a box with the words, "The Outlines of the Drawings in the Frame of the Progress of the Egg." This set contains six plates with twelve drawings of the same type.

In addition to these and the illustrations on the development of the goose, there are eight drawn by William Bell, on the development of the feathers in blackbirds before hatching, and there apparently are several more on the development of ". . . the down in the gosling, before exclusion, three weeks after incubation had commenced." The former comprise Plates XLV and XLVI in Volume III, Part 2, of the Physiological Catalogue published in London in 1836, and the latter are referred to by Owen in the same volume as "No. 123, Manuscript Catalogue of Drawings."

HUNTER'S DIRECTIONS ON METHODS OF PROCEDURE

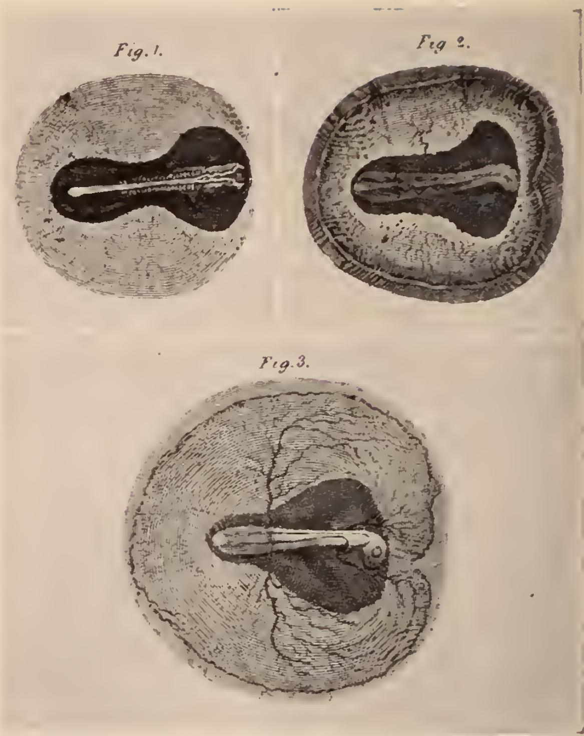
One of the most interesting paragraphs in connection with Hunter's notes on the development of the goose is that on ". . . the different Methods to be taken to examine the Progress of the Chick in incubated Eggs." Every beginner in chick embryology might well read these directions and try his own hand at following them. He would get a much better comprehension of the difficulties that the early investigators encountered, and a better appreciation of their resourcefulness. He could not help being impressed with Hunter's experimental attitude and could personally test two of the statements which he makes in connection with his comments on technique.

Hunter gave directions for removing the shell and the shell membrane, in order to observe the progress of incubation, and tried to incubate eggs in warm water in order to observe the process of development better; but he found that the embryos always died after a few hours. In a footnote in connection with this statement, he wrote that he used water of 204 degrees; but from his own statement elsewhere, it seems that this may be a misprint, for he must have known that this temperature was too high. He used every care, and even emphasized that one must observe the development of the chick during the night as well as during the day; but the use of a microscope is mentioned little and that is not without significance. Although Hunter acknowledged that magnifying glasses ". . . appear to give a good deal of information" regarding the blood, he was skeptical of them, and regrettably surmised that

Malpighi and Leeuwenhoek ". . . probably imagined more than they saw." He also wrote a long footnote containing almost eight hundred words on the difficulties encountered in the use of the microscope. Hence it is not surprising that, under the title "Red Globules," he declared: "Whatever their shape is, I should suppose it to be always the same in the same animals, and indeed in all animals, as it must depend upon a fixed principle in the globule itself." (Treatise on the Blood, p. 65.) That it did not occur to a zealous comparative anatomist such as Hunter to place drops of blood from different animals under the microscope in order to ascertain the shape of the erythrocytes, can only be accounted for, it seems to me, by his distrust of the instrument. He further thought that the red globules are "the less important" constituent of the blood. This seems very strange indeed, when it is recalled that he rightly looked upon the allantois as the lung of the unhatched chick, and even described the difference in color of the blood in the allantoic veins and arteries; and that he knew that the color of the blood was due to the color of the red globules, and was not due to the "serum and lymph" as he said.

Regarding the formation of the red globules, he wrote: "They appear not to be a natural part of the blood, but, as it were, composed out of it, or composed in it, and not with it; for they seem to be formed later in life than either of the other two [that is, serum and lymph*]; thus we see, while the chick is in the egg, and the heart beating, it then contains a transparent fluid before any red globules are formed, which we may suppose to be the serum, and the lymph. The globules do not appear to be formed in those parts of the blood already produced, but rather to rise up in the surrounding parts." In a footnote to this statement, Hunter added: "Thus, on some of the first appearance of the chick we find a zone surrounding it, composed of dots, which contain red globules, but not in vessels, and which zone becomes vascular afterwards. Vide Plate I." (*Ibid.*, p. 71.) (See Figures 1, 2, and 3.) He wrote further, ". . . I have therefore suspected that parts have the power of making vessels and red blood independent of circulation. This appears to be evidently the case with the chick in the egg." (*Ibid.*, p. 335.) As far as I am aware, this observation and conclusion of Hunter's, on the formation of the blood islands, was a noteworthy contribution to the subject. In connection with this idea, the editor of the Treatise on the Blood spoke of the position laid down in the work, "that when new vessels are produced in a part, they are not always elongations from the original ones, but vessels newly formed, which afterwards open a communication with the original." (Explanation of Plate I.)

When writing "Of the Living Principle of the Blood," Hunter declared: "To conceive that blood



Figures 1, 2 and 3 constitute Plate I in Hunter's Treatise on the Blood. In the atlas edited by Palmer, it is stated:

"In this plate is represented the embryo of the chick in the incubated egg, at three different stages of its formation, beginning with the earliest visible appearance of distinct organization. The preparations from which these figures are taken form part of a complete series, contained in Mr. Hunter's collection of comparative anatomy. They are meant to illustrate two positions laid down in this work, viz: That the blood is formed before the vessels, and when coagulated, the vessels appear to arise; that when new vessels are produced in a part, they are not always elongations from the original ones, but vessels newly formed, which afterwards open a communication with the original.

"Fig. 1. In this figure the only parts that are distinctly formed are two blood-vessels; on each side of these is a row of small dots or specks of coagulated blood, which are afterwards to become blood-vessels.

"Fig. 2. The formation of the embryo is further advanced, vessels appear to be rising up spontaneously in different parts of the membrane; and the specks, out of which they are produced, are in many parts very evident.

"Fig. 3. The number of blood-vessels is very considerably increased; they now form a regular system of vessels, composed of larger trunks, and a vast number of ramifications going off from them. . . ." (p. 9.)

According to Owen, "These figures were selected by Mr. Hunter for their present purpose, from an extensive series of drawings of the embryo of the goose at different stages of development, and of which he left only a general account in manuscript, but no detailed descriptions. The above explanations of the figures were doubtless added by the Editor of the original Edition of the 'Treatise on the Blood'; that they are not from the pen of Mr. Hunter is evident from the fact of there being upwards of ten figures in the original series, showing as many stages of the development of the embryo, *earlier* than that represented in Fig. 1, but with a visible and distinct organization. After a comparison of these figures with the embryo of the fowl and emcu at corresponding stages of development, I would propose the following explanation of them. At the period represented in Fig. 1, red blood is not formed, but although 'the heart is beating, it then contains a transparent fluid before any red globules are formed,' as Mr. Hunter has justly observed (vol. iii, p. 66 of the present Edition). The colourless fluid which circulates at this period, when the chick may be compared with the white-blooded invertebrate animals, is not, however, composed entirely, as Mr. Hunter supposed, of the serum and lymph, but contains many colourless globules, smaller than the red blood-discs of the mature bird, and presenting, under a very high magnifying power, a granular structure like the colourless nuclei of the blood-discs. While, however, the embryo thus exhibits an analogy to the white-blooded animals in the nature of its circulating fluid, it expresses at this, and even at an earlier period, the essential characters of the great division of animals to which it belongs. The row of dots, on each side of the two longitudinal white lines, are the primitive cartilages in which the ossification of the vertebrae commences; and the lines themselves are the folds of the serous layer of the germinal membrane, including the rudiments of the spinal chord and brain; the is endowed with life, while circulating, is perhaps carrying the imagination as far as it well can go; but the difficulty arises merely from its being fluid. . . . Our ideas of life have been so much connected with organic bodies, and principally those endowed with visible action, that it requires a new bend to the mind to make it conceive that these circumstances are not inseparable. It is within these fifty years only that the callus of bones has been allowed to be alive. . . ." (pp. 106-107.) . . . "Dr. Hunter was the first who showed callus to be endowed with the principle of life, as much as bone." John stated that he ". . . was led to this notion about the year 1755 or 1756, when . . . making drawings of the growth of the chick in the process of incubation," and it should be remembered that he undertook a large series of experiments in order to test this idea, without observing anything that controverted it.

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* In this and subsequent quotations from Hunter's writings, italics in brackets indicate words inserted by the author, brackets those introduced by Sir Richard Owen, while footnotes by John Hunter quoted here are so marked.

EQUIVOCAL GENERATION

Hunter thought that evolution, epigenesis and metamorphosis all shared in the various forms of development, and it is related that when one of his pupils asked him if his ideas regarding life "did not make for the exploded doctrine of equivocal generation," he allowed that ". . . perhaps it did, and that as to equivocal generation, all we could have was negative proofs of its not taking place. He did not deny that equivocal generation happened. There was neither positive proofs for nor against it taking place." He thought that at the very beginning there are parts which continue throughout life and added: ". . . such is, probably, the *Materia Vitae universalis* and the Absorbing System, which may indeed, according to the third principle, be changed." (Essays and Observations, p. 204.)

HUNTER'S VIEW CONCERNING THE LYMPHATIC SYSTEM

That he should have thought that the lymphatic, or absorbing system, was present in the unincubated egg seems very strange to us who know how it develops, but it is important to remember that, from his own and William's ingenious experiments on veins as absorbents, John had concluded ". . . that the red veins do not absorb in the human body. The fair inquirer after truth will be convinced, by the observations which occurred to me, that the common opinion—that they do absorb—is supported by some proofs that are at least doubtful or equivocal, and that the other opinion is not without plausibility; and he must allow that my brother's experiments render it highly probable." (Animal Œconomy, p. 311.) This shows that John was overimpressed with the rôle of the lymphatics, and concluded that they were present from the beginning. According to Abernethy, mentioned by Butler (1910), Hunter, when asked ". . . . how he could suppose it possible for absorbents to do such things as he attributed to them, replied: 'Nay, I know not, unless they possess powers similar to those which a caterpillar exerts when feeding on a leaf.' " (p. 941). He further wrote: "As we know nothing of the mouths of these vessels, it is impossible we can form any opinion that can be relied on; but as they are capable of absorbing substances in a state of solidity and fluidity, it is reasonable to suppose that they have different modes of action; for although any construction of parts that is capable of absorbing a solid may also be such as is capable of absorbing a fluid, yet I can suppose a construction capable of absorbing a fluid that is not fitted for the absorption of a solid, though this is not likely." (Principles of Surgery, p. 51.)

It often has been said, and very recently so, that Hunter's discovery of the lymphatic system ranks next to Harvey's of the circulation, but that is a serious error. Hunter seems to have recognized lymphatics in birds, and from his ingenious experimental work correctly conceived of the lymphatics as a general absorbing system; but he overshot the mark by insisting that absorption did not occur also through the venous system.

THE "CASE OF SUPERFŒTATION IN A NEGRO WOMAN"

Perhaps the most notable instance of misconception regarding generation, because so often quoted, is the "Case of Superfœtation in a Negro Woman." I have seen it referred to repeatedly in medical literature, and also by those who wrote on the life and work of John Hunter; yet, as Owen points out, Hunter probably received this story "at third hand, from N. L.," and I feel prompted to add that the mere fact that a woman gives birth to two children from different fathers in no way implies the occurrence of superfetation. Moreover, the story itself suggests that there was no ground whatever for regarding it as such, any more than there would be for regarding an instance of a litter of cats or dogs containing individuals of different paternity as indicating the occurrence of superfetation.

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three divisions of which, viz., medulla oblongata, optic lobes, and cerebral hemispheres, are indicated by the dilatations which succeed each other from behind forwards, towards the anterior or upper end of the embryo. The semicircular white line, surrounding the rudimental head, is the fold of the serous layer of the germinal membrane, forming the circumference of the depression in the yolk, into which the head is beginning to sink. This fold afterwards extends downwards over the dorsal aspect of the embryo, and forms the amnios. The concave edge of the fold thus descending is slightly indicated near the lower dilated part of the embryo at Fig. 3. The projection on the right side of the embryo (which is seen from behind) opposite the second cerebral enlargement, is the *punctum saliens*. There is little doubt that Mr. Hunter intended this figure to represent the stage at which colourless blood is circulated, as described in the passage above quoted. And it may be observed that this most interesting fact in the history of the development of the vertebrae embryo has been lately reproduced (by MM. Coste and Delpech), and generally received as a recent discovery.

"The 2nd figure illustrates the observation, 'the globules do not appear to be formed in those parts of the blood already produced, but rather to rise up in the surrounding parts.' The outline of the *punctum saliens*, or rudimental heart, is rendered conspicuous by the red blood which it now circulates: the red globules are aggregated in different parts of the *opake area*. In the third figure the zonular, or terminal sinus is formed, and the circulation of red blood is established in the omphalo-mesenteric vessels, distributed over the yet incomplete vitelline sac. It is obvious from Mr. Hunter's own description that vessels, and the heart itself, preëxist in the embryo to the formation of red globules; and I have myself observed, in the surrounding opake area, at the period corresponding to that represented in Fig. 1, canals already established before the red coloring matter had made its appearance.—R. Owen." (pp. 9-10.)

THE THEORY OF RECAPITULATION

John Hunter apparently had a fair conception of the theory of recapitulation, the formulation of which is usually attributed to Fritz Müller about a century later. Hunter declared: "If we were capable of following the progress of increase of the number of the parts of the most perfect animal, as they first formed in succession, from the very first, to its state of full perfection, we should probably be able to compare it with some one of the incomplete animals themselves, of every order of animals in the Creation, being at no stage different than some of the inferior orders. Or, in other words, if we were to take a series of animals, from the more imperfect to the perfect, we should probably find an imperfect animal, corresponding with some stage of the most perfect." (*Ibid.*, p. 203.) In a footnote on this quotation, Richard Owen, who also emphasized the importance of this generalization, added: "The same philosophical idea seems to have governed Hunter in penning the following passage: 'We may also observe that the first rudiments of every animal are extremely soft, and even the rudiments of the more perfect are similar to the full-grown imperfect, and as they advance in growth they become firmer and firmer in texture.' —Croonian Lecture by Hunter for the year 1782, Animal Œconomy, p. 268."*

(To be continued)

CLINICAL NOTES AND CASE REPORTS

BLEEDING FROM THE ANUS—ITS SIGNIFICANCE

By A. H. Weitkamp, M.D.
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THE passage of blood from the anus is a fairly common occurrence and, next to pain, most frequently sends the patient to his physician. Quite a number of causes are found for this condition. As to the location from which this bleeding arises, distinguishing characteristics may be recognized: first, in bright blood by itself; second, blood mixed with mucus, pus, or feces; and third, very dark blood, or even tarry stools.

1. Bright blood, which comes by itself or, at most, streaking the outside of stools, always is from the anus or terminal end of the gastro-intestinal tract. Of the pathological processes responsible for this, fissure or ulcer in ano are the nearest to the anal orifice, and their presence may be suspected by the sudden onset of an exquisite pain followed by a small amount of blood coming with or after defecation.

Next we note those cases, usually in adults, in which bleeding comes on painlessly, or practically so, either with or without defecation. Hemorrhoids will be the most common cause, although proctitis, neoplasms, and trauma are also to be considered. In the case of trauma any foreign body, such as bones, wire, pins, tacks, or almost any object the person may swallow or introduce through the anus, may be the cause. It must not be forgotten, however, that faulty instrumentation, either with the enema tube or the physician's instruments, may be the traumatizing agents.

If this fresh blood occurs in childhood, the cause will, in all probability, be either polypi, prolapsus, intussusception, or trauma from some object which has been swallowed.

2. Blood mixed with stool, pus, or mucus must, of necessity, come from a somewhat higher source than the former in order to give time and opportunity for the commingling of these elements. The majority of the pathological processes producing this condition are most serious, life-sapping, and distressing diseases.

The most common cause here is one or the other of the various dysenteries. Of these the acute bacillary is the most sudden in onset and has a rather profuse flow of blood. Occasionally, especially in the tropics, amebic dysentery may closely simulate the preceding, although usually it is more chronic and slower of onset. Chronic ulcerative colitis and balantidial dysentery have a rather insidious start, are slower to show bleeding, but very chronic in their course. Fortunately, typhoid, which in the past has been such a devastating disease, is now only rarely seen, but must be remembered as a possible cause in bleeding commingled with stools.

The microscopic examination of feces, as also the inspection by way of the proctoscope, go a long way in indicating the causative agent of these dysenteries.

Two exceedingly grave obstructive lesions must be remembered as productive of bleeding, namely, malignancy and stricture. In the case of cancer in the distal portion of the gastro-intestinal tract, the growth tends to encircle the lumen of the gut, with a consequent stasis of the bowel contents and the setting up of an irritative process. The neoplasm at the same time undergoes ulceration and infection, with a resultant destruction of the mucin-bearing cells and the underlying tissue. Hence, we have a foul-smelling discharge which, if it comes from the cancer alone, consists of pus, serum, and blood; but if the obstruction is not complete, will also have a more or less watery stool and mucus mixed therewith.

Should the obstructive lesion be a benign stricture, the sufferer will usually be a woman. The cause in almost every case will be that dread fourth venereal disease, regarding which we still know very little, lymphogranuloma inguinale. The discharge differs from that of cancer in that there is usually a greater amount of pus and mucus with a small amount of blood, often dribbling away to such an extent as to necessitate the wearing of a pad.

As further possible causative agents for stools with recent blood, one will remember polyposus, trauma, and some cases of diverticulosis.

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* A fuller discussion of the historical aspects of the law of recapitulation can be found in my article on the subject in a forthcoming number of the *Quarterly Review of Biology*.

3. When the excreta shows dark blood, or is of a tarry consistency, we know immediately that the source from which it came must have been rather high in the gastro-intestinal tract, since time and the digestive ferments are needed to produce this change.

Malignancy is the most serious cause here, and is principally found in two locations. First, in the upper reaches of the colon or cecum, where they cause a rather free loss of blood and a profound cachexia. The other is in the stomach itself, the most common location of cancer of the whole alimentary tract.

The next most frequent cause of hemorrhage is the peptic ulcer, coming either from the duodenum, stomach, or even from the esophagus.

Occasionally corrosives, taken either inadvertently or with suicidal attempt, open up avenues for the loss of blood.

815 South Hill Street.

SCIATICA SECONDARY TO FISTULA IN ANO

By Kenneth E. Smiley, M.D.
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That the anorectal region may harbor a focus of infection is generally recognized; but that such may be the case in the absence of symptoms referable to this area is apparently frequently overlooked.

The following case is so exceptionally illustrative, and such an enormous amount of time, effort and money were expended upon it before a diagnosis was reached, that it would seem well worth recording.

REPORT OF CASE

Mr. J. A. D., forty-four years of age. Married. Occupation: wholesale produce dealer.

Past History.—Irrelevant.

Present Illness.—Approximately eleven years ago he began to have an uneasy feeling in the lower back, especially after riding in an automobile. Two years later he had a sudden severe pain in the back, running down the posterior right leg. He was immediately disabled, was unable to straighten up, and could walk only with the greatest difficulty. As he did not obtain relief from osteopathic treatments, he consulted an internist, who made a diagnosis of sacro-iliac disease and sciatica, and he was fitted with a belt. This relieved the back pain somewhat, but did not affect the pain in the leg. He was disabled for about three years, during this time he was examined by many reputable men in general practice, orthopedics, and surgery, as well as chiropractors and osteopaths. The tonsils were removed, several teeth extracted, gastro-intestinal studies made and repeated, with the advice that his appendix and gall-bladder be removed, the belt was changed and apparently almost all types of therapy used without avail. He estimates that he spent between $5,000 and $6,000, which he could ill afford, in his effort to regain his health.

Because of an occasional mild diarrhea and a questionable diagnosis of amebic dysentery, he was sent for proctoscopic examination to a physician, who has since left this vicinity. Two infected anal crypts were found, and after incision of these the pain immediately disappeared. Approximately two years later there was some recurrence of the pain, which was again entirely relieved by attention to an infected crypt.

About eight months prior to my first examination, he again began to have sciatica, although he was not absolutely disabled. Treatment did not afford relief. On May 15, 1934, he was referred to me for incision of an infected crypt.

Complaints.—He complained of severe pain in the posterior right leg from the hip to the heel. At no time did he have symptoms referable to the anus or rectum, with the possible exception of the mild diarrhea.

Rectal Examination.—At the mucocutaneous junction, in the right posterior quadrant, a deep crypt was found to be present. Probing of this apparently aggravated the pain in the leg. With the exception of small internal hemorrhoids, the proctoscopic examination was negative.

Treatment.—Under local anesthesia, the crypt was opened. Immediately several drops of thick, yellow pus exuded. It was evident that we were dealing, not with a simple infected crypt, but with an incomplete internal fistula-in-ano. As it was impossible to obtain adequate drainage under local anesthesia, he was sent to the hospital, and two days later the fistula was excised and the wound packed with iodoform gauze. After removal of the gauze, the pain immediately disappeared and the wound healed in the usual manner.

Except for slight numbness in the leg, which he believes is gradually decreasing, he has been entirely well.

COMMENT

A case presenting the usual signs and symptoms of sciatica, due to an incomplete fistula in ano that caused no subjective symptoms has been cited.

It is suggested that the search for foci of infection in such cases should include not only the nose and throat, teeth, upper gastro-intestinal tract, genito-urinary system, but also the anorectal region.

523 West Sixth Street.

HERNIA OF A LOOP OF ILEUM INTO THE RETROCECAL FOSSA, WITH COMPLETE INTESTINAL OBSTRUCTION

By Charles S. Roller, M.D.
Colusa

REPORT OF CASE

On May 3, 1933, C. L., Chinese, male, aged fifty-four years, came to me complaining of pain in the right lower quadrant of the abdomen, inability to move the bowels, and nausea and vomiting of three days' duration.

The attack of abdominal pain began three days previous to his visit; the pain was intermittent in character and involved the entire lower abdomen, but was most severe on the right side. On the first day of his illness the patient took a laxative; shortly afterward he became nauseated and vomited three or four times. The bowels failed to move. No enema was attempted. He took nothing but coffee and a little water during the next two days, but felt nauseated many times, although he vomited very little. He passed no gas nor fecal material by bowel for three days.

The patient had had several previous attacks similar to the present one, but less severe, which he attributed to constipation, as he was relieved when the bowels moved. He denied all serious illness. Inasmuch as the patient spoke very little English, it was difficult to obtain a reliable history.

Physical Examination.—The patient was a Chinese, appearing much older than the stated age, thin and wrinkled, and obviously in severe abdominal pain. His temperature was 98 degrees Fahrenheit; pulse rate, 78 per minute; and respiration rate, 16 per minute.

The head, neck, chest and extremities showed nothing unusual. The blood pressure was 150/90. The skin was dry. The abdomen was distended only moderately, more in the lower portion than in the upper. The patient placed his hand over the appendiceal area, indicating the position of his pain. The right rectus muscle was only moderately spastic in the lower half; there was marked tenderness to deep palpation over the appendix area and laterally. An indefinite sense of resistance to a doughy mass could be felt just internal to the anterior superior spine of the right ileum. Marked peristaltic sounds were heard with the stethoscope at the time that the pains were most severe. The external inguinal rings were normal. Rectal examination was negative. The reflexes were present, but hypotonic.

Laboratory Examinations.—The urinalysis showed a trace of albumin, some acetone, and a few hyaline and granular casts; the blood count showed: hemoglobin, 75 per cent; red blood cells, 3,800,000; white blood cells, 8,400.

The preoperative diagnosis was intestinal obstruction, possibly caused by a beginning abscess in the appendix. Immediate operation was advised.

Under spinal anesthesia a long, McBurney-type, muscle-splitting incision was made. The appendix was found to be small, free, fibrotic, and not inflamed. As we lifted the cecum into the wound, a loop of ileum was seen to release itself from just below and lateral to the caput coli, and to disappear into the pelvis. We at once secured this loop of bowel—terminal ileum about 15 centimeters from the ileocecal junction—which was markedly congested and reddish purple in color, and for 9.5 centimeters of its length was covered with a thin layer of fibrin in one area. The mesentery at one point gave definite evidence of being strangulated. The gut, however, was viable and was returned to the abdomen. Further exploration revealed a smooth oval opening in the peritoneum 2.5 centimeters in diameter in the region of the retrocecal fossa (Fig. 2). The margins were swollen, edematous and covered with fibrin, and there was a pocket extending upward for a distance of from 5 to 8 centimeters, mostly posterior and slightly lateral to the cecum. Undoubtedly the loop of ileum had been incarcerated within this blind pouch, causing the intestinal obstruction. The edges of the opening were freshened and closed with fine black silk. Routine appendectomy was done, and during this procedure active peristalsis of the ileum was seen to be emptying gas and liquid feces into the cecum. The abdomen was closed without drainage.

The patient had a huge soft and liquid stool before he could be removed from the surgery, brought about, undoubtedly, by the release of the obstruction and the increase in peristalsis, resulting from the spinal anesthesia.

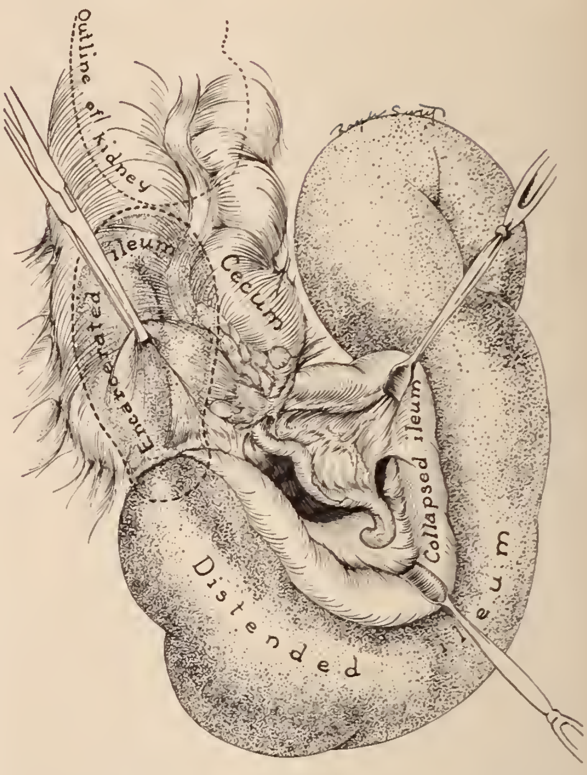

Fig. 2.—Illustration of condition found at operation: a portion of the cecum and ascending colon being drawn transparent to show the sac and encarcerated small bowel.

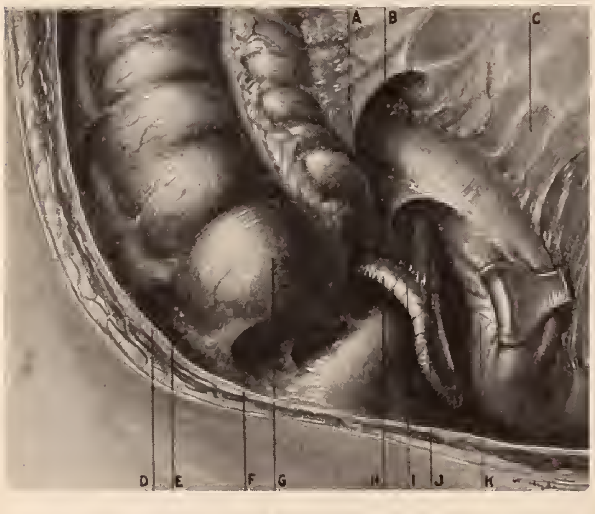

Fig. 1.—Anatomical drawing showing the various fossae about the ileocecal region. Illustration from "Callander's Surgical Anatomy."

Recovery was entirely uneventful, and the patient left the hospital on the thirteenth day after operation, with the wound firmly healed, bowels regular, and appetite very good. He was last seen about eleven months after operation, and at that time had experienced no further difficulty.

COMMENT

Intra-abdominal hernias may occur in the (1) duodenal area, (2) cecal area, (3) the area of the foramen of Winslow, (4) the sigmoidal area, (5) the diaphragmatic area, or in (6) the mesenterioparietal type of hernia (recently beautifully described by Callander), all being caused almost without exception by defects in embryological development. There are, in addition, three types of acquired internal hernia, as (1) diaphragmatic hernia resulting from trauma, (2) hernia through a traumatic tear in the abdominal viscera, omentum or mesenteries, and (3) postoperative hernias, such as those formed after a gastro-enterostomy or, as in the case reported by Mayo and Mangoun, following a left rectus colostomy.

Figure 1 shows the normal retrocecal fossa. The various fossae of the ileocecal region take part rather rarely in the formation of intraperitoneal hernia. In the case reported, a great enlargement of this fossa, shown in Figure 2, probably arose from the failure of the cecum and lower ascending colon to fuse with the posterior parietal wall, thus forming a deep pocket with a comparatively narrow entrance, through which the terminal ileum had entered in some manner, the loop of bowel subsequently becoming incarcerated.

The cecum and appendix usually have a complete investment of peritoneum so that all of the cecum, or perhaps only its caput, hangs free in the iliac fossa. Usually the line of peritoneal reflection and fixation is at the beginning of the ascending colon. However, at times, part or all of the posterior surface of the cecum, as well as the appendix, is fused to the parietal peritoneum of the iliac fossa. A cellular fascial layer lies between the cecum and the actual extraperitoneal tissue. This retrocecal fusion fascia is derived from embryonic fusion tissue between the dorsal peritoneal covering of the cecum and the primitive parietal peritoneum of the iliac fossa. An avascular retrocolic fold sometimes extends from the caput and the ascending colon across the lower part of the right paracolic gutter to the peritoneum of the iliac fossa, which bounds and limits the retrocecal fossa in this direction. The depth of this fold depends upon the height at which the peritoneal reflection from the large bowel to the iliac fossa or lumbar regions begins. The fossa may be so large that its blind end may reach to the lower pole of the right kidney, or even higher. The posterior boundary is, of course, the peritonealized connective tissue posterior to the caput coli and ascending colon, and the large bowel limits the pouch anteriorly and medially. In the case reported, the fossa was about 8 centimeters in length, and more capacious at its termination than at its opening. Most retrocecal appendices are located in this fossa which, in this event, is often closed tightly around the organ by adhesions. Whether or not the previous attacks the patient had had were caused by the ileum entering the pouch and being subsequently released, is problematical, and seems possible. There was no transposition of the cecum or colon or other abnormality noted within the abdomen, except as related above.

Most cases of this type come to attention only after symptoms of acute intestinal obstruction are present. Occasionally a better knowledge of the subject undoubtedly would lead to discovery of an intra-abdominal hernia of some type, in patients having indefinite symptoms of intermittent obstruction, and in whom other causes seem to be ruled out. It would be extremely easy to overlook one of these at operation, unless the bowel were actually within it, incarcerated or not, at the time of the exploration.

942 Clay Street.

INFECTED URACHUS CYST

By H. M. Ginsburg, M.D.
and
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Fresno

REPORT OF CASE

History.—Elizabeth D., female, aged two years, was admitted to the General Hospital of Fresno County, May 13, 1934, when the following history was obtained. The child became ill Monday, May 7, 1934, when she complained of pain in the midabdomen. The pain was not associated with nausea and vomiting. There were no symptoms referable to the genitourinary system. The bowels were regular. The pain in the abdomen continued to increase in severity, and the child was brought to the hospital. The physical examination at this time was completely negative, except for a slight tenderness in the region of the umbilicus. A very small umbilical hernia was noted which admitted the tip of the small finger. The temperature, pulse and respiration were 99.8 degrees Fahrenheit, 100 and 24, respectively. The mother was informed that the child was not seriously ill, and did did not need hospitalization. She was advised and the child sent home to return for further study if the above symptoms did not subside.

The child continued to complain of pain which was becoming more intense. She had no appetite and had some pain on urination. The urine was clear and grossly contained no blood. There was no nausea, vomiting, cough, diarrhea, or bloody stools. On May 13, 1934, the child was returned to the hospital. Physical examination revealed a child, toxic, restless and apparently in a great deal of pain. Temperature, pulse and respiration were 103.8 degrees Fahrenheit, 138 and 28, respectively. Palpation of the abdomen revealed a tumefaction just below the umbilicus, and extending down to the symphysis pubis. It was resistant to palpation. The entire lower abdomen was extremely tender, most marked at the umbilicus. The tumefaction was flat to percussion. A rectal examination revealed a mass pointing anteriorly into the rectum. It was tender to touch and felt like a distended bladder. The patient was catheterized and 400 cc. of clear urine was withdrawn. A rectal examination at this time revealed that the bladder was apparently normal; however, there still remained a mass in the anterior abdomen. The tenderness had not subsided. A blood count at this time showed 15,750 white blood cells, with 87 per cent polymorphonuclear leukocytes.

The family history was negative. In the past history the child had a normal delivery at this hospital. Subsequent to operation, further questioning revealed that the child had a watery discharge from the umbilicus up to six months of age. The discharge then ceased and the child apparently had no further trouble from this cause.

Working Diagnosis.—The tentative preoperative diagnoses at this time were:

1. Ruptured appendicitis
2. Strangulated umbilical hernia
3. Urachus cyst
4. Meckel's diverticulum
5. Intestinal intussusception.

Under ether anesthesia, a right paraumbilical incision was made. The peritoneum before opening felt nodular and hard, and gave one the impression of a generalized malignancy of the peritoneum. Upon opening the peritoneum, a hard nodular mass was encountered. There was a thick greenish-yellow pus mixed with blood exuding from the mass. It extended from the umbilicus to the fundus of the bladder, and was about two inches wide and attached at the midline to the peritoneum. The infected mass was dissected away from the umbilicus down to the bladder fundus. The bladder, especially the fundus, was markedly thickened and could be pulled up till it was outside of the pelvis. The mass was dissected from the fundus without entering the bladder, and the raw surface inverted and covered with peritoneum. Rubber drains were placed in the abdomen through stab wounds and it was then closed in layers.

Postoperative Diagnosis.—The postoperative diagnosis was infected urachus cyst. The immediate postoperative condition was fair. The temperature, respiration and pulse were 103.8 degrees Fahrenheit, 32 and 78, respectively. About one hour later, the rectal temperature was 109.4 degrees Fahrenheit. The child was given cold sponges and alcohol rubs. The respirations were labored and the condition was poor. Stimulants were administered. Five hours postoperative, the condition was still poor and continued until 5 a. m. (twelve hours later) when the child expired.

Autopsy.—At autopsy, there was found an area of induration in the peritoneum extending caudally 2.5 centimeters from the umbilicus. From the interior of the bladder no opening could be found communicating with the stump of the cyst.

COMMENT

In early embryonic life both the digestive tract and the urogenital ducts open caudally into a common cavity, the cloaca; from the ventral portion of this cavity there is a long tubular outgrowth, the allantois, which extends through the umbilical cord to the placenta; as the cloaca is divided to form the bladder and rectum, the allantois loses its connection with the bladder, and in fetal life the cranial third of the bladder is obliterated. From these structures there is formed a fibrous cord extending from the apex of the bladder to the umbilicus, known as the urachus or middle umbilical ligament of the bladder. This cord-like structure is outside of, but closely related to, the parietal peritoneum.

Three anomalies may result from the failure to complete this developmental process. Incomplete closure of the lower end of the urachus and its opening into the bladder result in a form of small diverticulum of the bladder. If the upper end of the urachus remains patent, communicating externally through the umbilicus, a sinus discharging mucopurulent material is formed. A third, and the rarest anomaly, is the formation of a cyst due to closure of both ends with patency of all or part of the intermediary portion.

In our case, the umbilical end had remained open until the seventh month of postnatal life, and then the umbilical opening was closed and an infected cyst developed. Cullen, in describing the course, states that "the first symptom is pain, which is intermittent or sudden and violent. A moderate degree of fever is usually noted. Patients may occasionally have nausea, vomiting or diarrhea. There are, as a rule, no bladder symptoms. The absence of vesical symptoms stands out in sharp contrast to what occurs in those cases in which the urachal enlargements have a direct connection with the bladder. In the latter, vesical symptoms are the rule. On examination it is possible to detect board-like induration between the umbilicus and the symphysis. If the abdominal wall is lax, one may palpate the tumor (absent in this case, since the child was voluntarily rigid, and even light palpation caused the child to cry out with what appeared to be excruciating pain). As a rule, the abdominal skin looks normal, but the umbilical skin may have a reddened and inflamed appearance."

The operative procedure of choice is to dissect out the entire urachus tract, including the umbilicus and inverting the bladder end.

SUMMARY

Report of a case of urachus cyst with a discussion of the symptomatology, diagnosis and treatment.

The General Hospital of Fresno County.

ENLARGED TONGUE FROM AMYLOIDOSIS

By F. S. Balyeat, M.D.
Los Angeles

REPORT OF CASE

HISTORY.—W. O. B., white, male, aged sixty, was first seen by me in my office on December 18, 1934, with the complaint of an enlarged tongue and difficulty in swallowing and talking. He was referred by Dr. K. Flowers of Santa Monica. History: About September 1, 1934, he first noticed trouble with his tongue in swallowing and talking, when accompanied by small erosions on the tongue which would spontaneously disappear. October 15, the submaxillary lymph glands became very large. At that time two lower bicuspid teeth were removed by his dentist, but with no benefit. From October 15 to December 10 the tongue remained swollen, together with one small erosion which disappeared spontaneously. During this time the temperature was irregularly up and down, sometimes being as high as 103 degrees. On December 10 a new erosion appeared on the left side of the tongue, near the anterior pillar, and this was still present on December 18. Physical examination was negative, except for a secondary anemia, arteriosclerosis and myocardial degeneration. The blood Wassermann was negative. Numerous smears of the mouth were negative for Vincent's infection.

Examination on December 18 revealed the following: Temperature, 99.4 degrees Fahrenheit. Tongue greatly and generally swollen, almost filling the entire mouth, the consistency being uniformly hard. On the left side, near the anterior pillar, was an erosion eight by eight millimeters with no indurations. The upper jaw and the lower jaw in the molar and bicuspid area were edentulous. Submaxillary lymph glands were enlarged on both sides. On December 28 the tongue was still more swollen. The other findings were as before, except that the patient felt weaker, while his weight was increasing. At this time a biopsy was considered. On January 3, patient dropped dead from his heart condition.

Autopsy.—Report from the autopsy revealed: Amyloidosis of tongue, dilatation of heart, chronic passive congestion of liver and lungs, moderate chronic diffuse nephritis, generalized arteriosclerosis and coronary sclerosis, moderate. The tongue contained no growths or other macroscopic cause for enlargement. Microscopic findings: There was much generalized and diffuse deposits of amyloid throughout the muscles of the tongue; verified by iodin and gentian violet stains. The tongue was sectioned and stained grossly for amyloid with positive findings. Sections of the erosion on the left side of the tongue were negative for malignancy. No other structures showed amyloid deposits.

COMMENT

Amyloidosis* should be considered in cases of enlarged tongues. The diagnosis can be determined by biopsy. The treatment which we believe would be most satisfactory in the majority of cases would be surgical excision of part of the tongue. We are unable to explain the large glands and temperature changes.

1136 West Sixth Street.

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* Warren, Shield: *American Journal of Pathology*, 6:161-168, 1930.

He has achieved success who has lived well, laughed often, and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has left the world better than he found it, whether by an improved poppy, a perfect poem, or a rescued soul; who has never lacked appreciation of earth's beauty or failed to express it; who has looked for the best in others and given the best he had; whose memory is a benediction.—Mrs. A. J. Stanley.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

VACCINATION

IMMUNOLOGIC PHASES OF VACCINATION

Andrew J. Thornton, M. D. (3235 Fourth Street, San Diego).—I like to think that every doctor has enough confidence in the immunizing properties of smallpox vaccination to recommend it to his patients, and with emphasis to advise them to have it done on both themselves and their children, not only once but repeatedly. Most of us back up this advice by performing vaccination on our patients whenever the opportunity is presented.

Each individual doctor has his own particular pet method of carrying out the process, but technique does not enter into the discussion here. Many of us have been doing vaccinations for so many years that possibly some of us have forgotten that the process is, in reality, highly technical and thoroughly scientific. I wonder how many of us give any thought to the various phases of immunity manifestations, and the different reactions that occur after vaccination in different individuals?

It has seemed, therefore, that a review of the subject of vaccination, with special emphasis on immunity and the significance of the various reactions, would be in order. I shall not at this time discuss the different methods of applying vaccination virus, but some reference will be made later on to the immunologic results of certain procedures.

Initial Vaccination.—The results of vaccination done for the first time on a patient are quite familiar to all, and need little discussion. The primary "take" runs a classical course. There is about three days' incubation period; three days' papular stage; three days' vesicular, and three days' pustular stages. These four stages succeed each other, in most cases, with marked regularity. The height of the course is reached about the twelfth day, and after that there follows a drying and crusting period, with a typical pitted scar when the scab drops off.

It should be assumed that any individual who has never been vaccinated, or who has not had smallpox, is susceptible to the disease and should respond to vaccination properly performed. If such a patient fails to get a "take," the reason for such failure is either an inactive virus, failure to insert the virus or some other fault in technique. We have all seen individuals who claim to have nursed smallpox patients, and have themselves never been vaccinated nor suffered the disease; but we cannot be influenced by such claims into exempting them from vaccination, especially in the presence of an epidemic.

The following statistics[1] will serve to lay emphasis. Of 321 persons who had never been vaccinated nor had smallpox, 98.4 per cent were successfully vaccinated on the first scratch. Of the five who did not get "takes," three responded on revaccination, making a total of 99.3 per cent.

Duration of Immunity. — Seven is a magical number which, I feel sure, has more significance in a certain game of chance than it has as an indicator of the duration of immunity from smallpox after vaccination. Jenner believed that a single successful vaccination conferred a lifelong immunity, and any failure in that regard was due to some improper technique in its application. However, the occurrence of smallpox in previously-vaccinated individuals became so frequent in the latter years of his life that vaccination itself was for a time seriously discredited.

Immunity wears off in time and each individual differs in that respect. Wilkins reports one case: a man of twenty years, who had been successfully vaccinated five times in sixteen years, and showed a good "take" which ran a course like a primary "take" on the sixth vaccination, although his last previous "take" was but one year old. Palmer and Rosenau report a medical student who had had four previous successful vaccinations, and then a primary "take" on their scratch.

On the other hand, we see many individuals who have had but one vaccination in forty years or longer. The following observations[1] will serve to illustrate. A total of 244 persons showed an average period of time, between two successful vaccinations, of 9.48 years. The results[2] of revaccination in 557 medical students showed the following: of 337 students vaccinated ten years or less previously, only one showed a primary "take." Of 168 students vaccinated ten to nineteen years before, there were six primary "takes." Fifty-two students vaccinated twenty years or longer showed only four primary "takes."

Thus we see that, after immunity is once established in the average person, primary "takes" are rarely found from subsequent vaccination even as long after as twenty years, and we are forced to the conclusion that in the great majority of cases immunity to vaccination lasts much longer than is commonly thought. In Germany the law formerly said: "The duration of immunity conferred by vaccination varies within wide limits, but averages about ten years." In England the Royal Commission on Vaccination said: "Vaccination protects during the years immediately succeeding the operation, probably from nine to ten years." Gillihan states that in the Orient it is said: On account of the extreme virulence of smallpox, vaccination is repeated at short intervals until the patient gives no further reaction to the virus.

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[1] Wilkins: Ohio State M. J. (Jan.), 1927.

[2] Dearing and Rosenau: Smallpox, J.A.M.A. (June 16), 1934.

Revaccination.—While the reaction after primary or initial vaccination is simple and easy of interpretation, that which follows revaccination is more complex and not so easily understood, unless one keeps in mind what the phases of reaction are and what each one means.

Recent studies on the subject have designated the reactions following revaccination as (1) immediate; (2) accelerated; (3) primary.

In the light of our present knowledge of allergy, the immediate reaction of revaccination is an allergic reaction. The individual has been sensitized to the virus, and reacts immediately. This indicates that his immunity has not worn off.

The accelerated reaction is also allergic, but is delayed; as compared with the immediate reaction, but accelerated as compared with the typical primary "take." This indicates that the immunity has partly worn off. The primary reaction is the classical "take" of the nonimmune person, and runs the usual course, as above described, and indicates immunity all worn off.

With these three distinct reactions in mind, we may discuss them more in detail. Immediate reactions were noted by Jenner, but were so slight and came so early in many cases that they were often overlooked. The immediate reaction comes within twenty-four to forty-eight hours usually, and is characterized by redness surrounding the site of the vaccination and develops a papule.

The California State Board of Health[3] declares that when an areola of 5 millimeters or more in diameter occurs, with or without papule at the site, within twenty-four hours after vaccination, then raises to maximum development within forty-eight hours and fades without forming a vesicle, the reaction is immediate.

If the areola reaches its maximum stage from the fourth to the seventh day and forms a small pustule which disappears more quickly than the lesion of an initial vaccination, then the reaction is accelerated.

Andervont and Rosenau,[4] experimenting with unheated vaccine virus and virus heated to 70 degrees centigrade for one hour in previously vaccinated persons, found that the heated virus produced a reaction with papules indistinguishable from the well-known immediate reaction. Also the reaction was as constant as was that of the unheated virus. The heated virus did not produce a reaction when used to vaccinate previously unvaccinated children, and did not produce immunity. Their studies further proved that the antigenic substance responsible for the immediate reaction was the virus.

Significance of Scar.—In examination of their data on immediate and accelerated reactions ten years or more after prior vaccination, Dearing and Rosenau found a distinct change during the period covered by their study. In the earlier years the percentage of immediate reactions was lower than in the later period. This change, they think, could be attributed to the difference in technique used in the two periods. Formerly, large insertions were made with the belief that the larger the scar the more prolonged the immunity would be. It is now known that a scar as small as one-eighth of an inch in diameter gives satisfactory immunity and a minimum of discomfort to the patient.

On the other hand, Gillihan[5] thinks that a scar one-half inch in diameter gives a more lasting immunity than a smaller scar. While Wilkins concludes that the amount of reaction of vaccination seems to depend upon (*a*) the size of the scratch; (*b*) the susceptibility of the patient, *i. e.*, the lack of immunity; (*c*) with the after-care taken. The average size of the scar from his vaccination, by actual measurements, was about 1.2 by 1.2 centimeters in diameter.

Conclusions. — Every attempt at vaccination should produce some reaction, and the formation of the vesicle is indirectly in proportion to the amount of immunity present in the patient.

Theoretically, therefore, the inoculator can read from the various reactions just the degree of immunity any individual has. It is well to remember, however, that immediate reactions were overlooked during the whole of the nineteenth century by everyone except Jenner and a few other outstanding students of the subject. The reaction is often so mild in degree that even medical students receiving instruction in the subject overlooked the papule until it either caused itching or was pointed out by the instructor.

* * *

INTRADERMAL VACCINATION

Oscar Reiss, M. D. (312 Wilshire Medical Building, Los Angeles).—Ever since Jenner first described his simple scarification method of vaccination, attempts have been made to increase the efficiency of this highly effective measure of preventive medicine. The single scratch, the Pirquet chisel scarification, the multiple puncture, and various modifications of these methods, all have their firm adherents. Still another method, the intradermal, though less extensively used, seems to me to enjoy enough advantages to warrant rating it as the most desirable of all.

During the 1924-1925 Los Angeles epidemic of smallpox, it became necessary to admit smallpox cases to the Los Angeles General Hospital. This necessitated the vaccination of everyone associated with the hospital. After vaccinating a considerable number by the various cutaneous methods, with only a small percentage of "takes," it was decided to try the intradermal method, the use of which method had been advocated by Hoffman, Singer, Leiner, and Kundratitz in Europe, and by Wright, Twyman, Gettinger and Force in this country.

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[3] Sawyer, Wilbur A.: Pub. Health Rep. (April 15), 1927.

[4] J. Immunol., 18:51 (Jan.), 1930.

[5] Am. J. Pub. Health, p. 906 (Sept.), 1927.

About 1,100 persons were vaccinated, and the following advantages were amply demonstrated:

1. *Exact dosage,* a known amount of virus can be introduced.
2. Certain absorption, because introduced intradermally.
3. Virus cannot be accidentally or purposely wiped off.
4. *Minimizes infection,* because there is no denuded skin surface.
5. No possibility of auto-inoculation.
6. *Requires no dressing.*
7. Resultant scar is much smaller.
8. Results in maximum percentage of "takes."
9. Immune reaction occurs if immunity exists.
10. Obvious advantages in persons with skin disease.
11. If no "take" or immune reaction, it submits evidence of dead virus or improper technique.

During the past ten years I have used this method exclusively, and in a series of 406 primary vaccinations have failed, in only nine cases, to secure a "take," and have not encountered a single instance of infection. When one considers how difficult it often is to convince parents of the need of having their children protected against smallpox in the first place, and how much more difficult it becomes to have the children returned for revaccination when the first attempt fails, the importance of using a method with 98 per cent success should be apparent.

A description of the technique, although frequently appearing in the literature, is worth repeating. A capillary tube of vaccine virus is broken at both ends, a tuberculin syringe with a short bevel, 27-gauge needle, is inserted, sucking out the contents of the tube into the syringe. One-tenth cubic centimeters sterile water is then drawn into the syringe. The skin over the brachial insertion of the deltoid is carefully cleaned with alcohol, and the contents of the syringe are injected intradermally at this site.

Usually, about the third or fourth day, a small macular lesion develops. However, the appearance of this lesion has in some instances been delayed as late as the twelfth day. The macular lesion then successively proceeds to vesiculation, pustulation, crusting and scaling, finally healing in from ten to twenty days with scar formation. The resultant scar in nearly all instances has been smaller and cosmetically less objectionable than what we had been obtaining by cutaneous methods.

It is important that the virus be introduced intracutaneously and not subcutaneously, because in the latter case a true skin picture of successful vaccination with the various stages above described may not appear, and visible evidence of a "take" will be lacking.

Usually on the sixth or seventh day, although sometimes as late as the fourteenth day, a constitutional reaction sets in, manifested by anorexia, malaise, and fever. The fever is usually slight, 99 to 101 degrees, but in some instances as high as 104 or 105 degrees Fahrenheit. In most cases it lasted only twenty-four hours. Only three children out of the entire group developed a badly swollen arm, with enlarged glands; but these signs all cleared up within seventy-two hours.

I am inclined to attribute the uneventfulness of this excellent clinical record largely to two factors: first, the method of vaccination used, and second, the fact that most of our group of children were vaccinated during the first year of life.

* * *

CERTAIN COMPLICATIONS FOLLOWING SMALLPOX VACCINATION

Claix Fanning Gelston, M. D. (Children's Hospital, San Francisco).—Klugh and King[1] give a most excellent résumé of *encephalitis* as a complication of vaccination: "The postvaccination cerebrospinal complication (encephalitis, encephalomyelitis, etc.), is a relatively newly recognized disease entity brought to the attention of the medical profession as recently as 1924. Of approximately seven hundred cases that have been recognized, only seventy-one have been recorded in the United States in the past ten years. By far the largest number of reports have come from Holland and England. Numerous cases have also been recorded in Germany, Sweden, and Norway. Occasionally, both in this and foreign countries, small, epidemic-like outbreaks have occurred, limiting themselves, however, to localized areas of population. The complications have occurred following the use of both rabbit-brain virus, guinea-pig virus, and strains of calf virus, obtained from various sources. The complications have followed both single and multiple insertion methods.

The specific causative agent of postvaccination cerebrospinal disease is not definitely known. Several theories have been advanced. Chief among these are:

1. That the vaccine virus itself is the causative agent.
2. That some unknown virus becomes activated by the vaccine virus, converting a latent encephalitis into an active one.
3. That the disease is a manifestation of an anaphylactic reaction, the vaccine virus acting as a sensitizing agent to nervous tissue.

Alternative theories advanced take into consideration vitamin or other dietary factor. Activation by vaccina of certain forms of bacteria, especially of the streptococci type, and of certain protozoa and yeasts, have also been suggested.

Eckstein[2] and his associates carried out clinical and animal experiments with a view to determining the course of vaccination, and any injury to the central nervous system caused by the vaccine, which could provide fresh points of view for forming an opinion on vaccination encephalitis.

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[1] Klugh and King: Encephalitis as a Complication Following Vaccination, J. Arkansas M. Soc., Vol. 31, pp. 92-93, No. 6 (Nov.), 1934.

[2] Eckstein, A.: Investigations on the Causes of Vaccination Encephalitis, Arch. Dis. Childhood, 7:105-116 (June), 1932.

They succeeded in proving that even in normal persons the vaccine virus could be demonstrated in the blood with great regularity. In these experiments they made use of the experiments of Othawara, who, after normal vaccination, could demonstrate the vaccine virus in the blood by its retention in the testicle of a rabbit.

> "The blood of most of the patients was positive between the third and tenth day, especially between the sixth and eighth day after vaccination, also when the clinical manifestations were present."

> "Although the view . . . that vaccination represents a local process accompanied by a secondary allergic reaction . . . was, considering certain abnormal vaccination reactions especially of general vaccines, not probable, and although the acquisition of a general immunity, following vaccination, was rather in favor of a general infection of the organism with vaccine virus, only experiments in a larger material of normal vaccinated children definitely proved this point. The occurrence of these general infections, especially affections of the central nervous system following vaccination, has a certain importance, as they find their analogues in numerous other infectious diseases."

This view was also confirmed by further observations that in no case of normal vaccination did the author succeed in proving vaccine virus in the cerebrospinal fluid; whereas in five cases of vaccinal injury of the central nervous system it could be demonstrated.

> "There are two important points of view as to the causes of nervous complications following vaccination: (1) that the complications are due to an activation of the latent encephalitic germs caused by vaccination, or (2) that the vaccinations themselves are the cause of the complications."

The view gains ground that the vaccine virus itself is to be regarded as the actual cause of the complications. The author's clinical observations are in favor of this theory. In further experiments on monkeys, he was able to demonstrate that the presence of vaccine virus in the blood (also by directly injecting large quantities of the vaccine virus into the blood stream) did not give rise to any nervous affections as long as the barrier between blood and cerebrospinal fluid, as well as between blood and brain, is still intact.

> "On the other hand, the presence of vaccine virus in the cerebrospinal fluid, also in very great dilutions, is connected with a meningo-myeloencephalitis running a typical course."

In other experiments, by producing different degrees of disturbance of the circulation of the central nervous system (unilateral ligature of the jugular vein), he also succeeded in exhibiting symptoms in monkeys which had a great clinical and morbid anatomical similarity to the so-called vaccination encephalitis observed in human beings. He obtained the same result by disturbing the current of cerebrospinal fluid by continuous lumbar punctures.

> "As the experiments were carried out with a standardized (human) vaccine which was always previously tested as to its sterility, here only the vaccine virus comes into consideration as the injuring agent.

> "When trying to form an opinion as to the case of vaccination encephalitis in human beings, attention was drawn over and over again to the fact that only in isolated cases has it been possible to prove vaccine virus in the brain of patients who died of vaccination encephalitis. But this proof loses its conclusive force in so far as the presence of vaccine virus in the blood is normal during the period in question, and therefore should, of course, not be looked upon as being pathogenic in the brain."

Postvaccination encephalitis tends to occur more in rural districts than in cities; girls are affected more often than boys. Infants under one year of age, though not immune, are seldom victims, as are also children over eight years of age. The larger proportion of cases have occurred following the primary "take" among children of school age, while adolescents and adults are practically exempt.

While the disease has occurred both following multiple and single insertions, most students of the subject regard the former as a greater predisposing method than the latter.

The nervous manifestations of postvaccination encephalitis are quite variable and may point to involvement of the meninges, the brain, the brain stem, the spinal cord or, as most frequently encountered, to a combined involvement of two or more of these structures. In spite of this variability of clinical symptoms, the disease as a distinct entity has been firmly established, mainly on the basis of the pathologic post-mortem findings, which are distinct and characteristic.

The incubation period is from four to seventeen days, most cases developing the first symptoms between the tenth and thirteenth days following vaccination. The uniformity of onset, course, and time relations of the symptoms in most cases is quite striking. The course of the disease is rapid, the fatal cases dying on the third or fourth day after onset of symptoms, or two weeks after vaccination. The earliest symptoms, as described by H. I. Viets and S. Warren, are: "Headache, vomiting, pyrexia, and a tendency toward paralysis. In infants convulsions, too, are frequent. Consciousness is soon lost. The paralysis consists of weakness of the cranial nerves or of the extremities, and there is considerable variation from time to time. The Babinski response is sometimes obtained. As the disease progresses the deep reflexes disappear. Sphincter control is usually disordered, incontinence being a common finding. Trismus has occurred in many cases."

The spinal fluid is clear, often increased in pressure, and no visible or cultivatable organisms can be demonstrated. The cell count is usually increased, containing mononuclear and polynuclear cells. In a few cases small amounts of vaccine virus were detected. On the other hand, frequently the spinal fluid is essentially negative.

In regard to the diagnosis, many cases have occasioned much confusion and have been mistaken for tetanus, epidemic meningitis, tuberculous meningitis, encephalitis lethargica, meningismus, poliomyelitis, cerebral hemorrhage, sunstroke, epilepsy, and hysteria. In differentiating, the history, the incubation period, course, and symptoms of the disease, as well as the spinal fluid and other laboratory findings are essential factors.

Very encouraging results, as are evidenced by recession of symptoms, abatement of the course, and hastening complete recovery, have been reported by foreign observers following the use of serum or citrated blood from individuals recently vaccinated or, preferably, vaccinated at the same time as the patient. The serum has been given both intrathecally and intravenously, most frequently by the latter route. Intravenously it has been given in doses from 8 to 10 cubic centimeters for one or two doses. In one case 5 cubic centimeters were given intrathecally, with striking results. Very good results have followed this treatment in severe cases even when used late, such as when the serum was given up to four days following onset of symptoms, or thirteen to sixteen days following the patient's vaccination. One case was benefited by the serum of the father, who had been vaccinated four years before.

The simplicity and accessibility of this method of treatment should serve to encourage its trial in every case.

Among the European cases the mortality rate is high, occurring in 50 per cent of the cases reported in England, and in 35 per cent of those in Holland. The mortality rate in this country has been estimated at 37 per cent. With rare exceptions, the nonfatal cases recover promptly and completely, leaving no sequelae. Exceptionally, residual symptoms persist, a case of marked mental deterioration and one of complete flaccid paralysis of both legs, with anesthesia below umbilical level, having been reported among the seventy-one cases of postvaccination encephalitis in this country.

There are several well-recognized factors in considering the prophylaxis of this dreaded postvaccination complication. Infancy may be considered as the best period to subject the individual to the primary vaccination, preferably during the first year of life. This should always be done with a suitable technique, one of which is defined by Charles Armstrong as "Employing a small superficial insertion, never over one-eighth inch in greatest diameter, and which employs no routine dressing." The same writer, on the basis of his experiments with mice, suggests that "inoculation with diphtheria toxoid tends to render these animals somewhat more resistant to vaccine virus subsequently administered intracerebrally. It is suggested that primary vaccination, especially after the first year of life, be deferred until contemplated immunization against diphtheria or other diseases by means of inanimate antigens has been accomplished."

Nervous children, or those with neurological ailments, should be excluded. In times when encephalitis, poliomyelitis or meningococcic meningitis are epidemic, vaccination should be postponed. Bed rest for three weeks, following vaccination, has also been suggested as a prophylactic measure.

In contrast to the lack of uniformity in the clinical symptoms of postvaccination encephalitis, the pathological picture, especially that referable to microscopic examinations, is constant, characteristic, and easily differentiated from that encountered in epidemic encephalitis (lethargic encephalitis) or in poliomyelitis of primary origin; on the other hand, the findings simulate closely those occurring in nervous system inflammations complicating such diseases as measles and scarlet fever.

Brookbank[3] reports a case which presented clinical and laboratory signs of *spinal meningomyelitis.* The sensory level seemed to indicate that the inflammation in the acute stage had progressed only to the level of the fifth dorsal segment, although motor signs pointed to mild inflammatory involvement in segments considerably higher. The sensory level two months after onset was in the eighth dorsal segment.

Cases of this type, with a definite sensory level in the spinal cord, are rare. Peake reported a case with the sensory level at the ninth dorsal segment in the acute stage, which cleared up almost completely within a month. Other similar cases have had either transient or no sensory involvement, the clinical picture simulating polio-encephalomyelitis. Spiller's cases were true smallpox.

Prodromal symptoms in the present case began on the thirteenth day after vaccination; in most reported cases onset has occurred between the tenth and thirteenth days. It has been noted that the disease is most severe between the ages of three and six years, and permanent sequelae give no approximation of their relative frequency; but mortality statistics indicate fatality in from 35 to 50 per cent of cases—the former figure in 150 Dutch cases in the period from 1924 to 1928; the latter figure in ninety-three English cases in the period from 1922 to 1928. In regard to other etiologic factors, it seems that there is no evidence of contagion and no seasonal variation, but twice as many cases have been reported in females.

Chalke[4] has made some interesting observations on *skin manifestations,* following vaccination. He states:

> "Accidental vaccination lesions may appear either in the neighborhood of the original vaccination site, or in any other situation on the body, as a result of the introduction of the virus into a wound or abrasion. In this way a mother may be inoculated from the vaccinal pustule of her child, or the child may reinoculate itself. There is a greater tendency for this to occur when there is preëxisting skin disease, such as impetigo. Auto-intoxication is not, however, common and should not take place if proper precautions are taken to protect the vaccinated area. Lesions of accidental vaccinia may be distinguished from the focal rash of smallpox by their distribution and their number, but it must be remembered that the inoculation lesions not infrequently met with in smallpox are very similar in appearance. Patients, especially those who are smallpox contacts, displaying such pocks should be kept under observation for a few days, and carefully examined for the presence of a generalized smallpox rash. . . .

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[3] Brookbank, Thomas William: Postvaccinal Myelitis, J. A. M. A., 97:227-228 (July), 1931.

[4] Chalke, Hervert D.: Observations on Skin Eruptions Following Vaccination, Lancet, 220:578-581 (March 14), 1931.

CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section (Adv. pages 2, 4 and 6).

CALIFORNIA MEDICAL ASSOCIATION

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Secretary-Treasurer and Associate Editor for California

STATE AND COUNTY SOCIETY ACTIVITIES

ANNUAL MEETING PROGRAMS

Essayists presenting papers before our several scientific sections are selected by the Scientific Program Committee and Section officers. This selection is usually made before November 1. Members desiring to present papers are advised to contact Section officers before October 1.

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AMERICAN MEDICAL ASSOCIATION, 1936

The 1936 session of the A. M. A. will be held in Kansas City, May 11-15, 1936.

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HOTEL RESERVATIONS IN SAN FRANCISCO

Your State Secretary will be glad to make hotel reservations for members coming to San Francisco on personal business or to attend any of the National, State, or Pacific Coast medical meetings scheduled to be held in San Francisco. Just write or phone the State Secretary, stating the accommodations desired and time of arrival, and reservations will be made for you at special rates. You are urged to use this service.

* * *

HOTEL RESERVATIONS, 1936 ANNUAL SESSION, CORONADO

Arrangements have been made with the management of the Coronado Hotel for our 1936 annual session. All the meetings, exhibits, registration, etc., will be held in the hotel. The entire hotel will be placed at the Association's disposal. The 1936 annual session will be held on May 25-28 (Monday to Thursday inclusive).

Members are urged to write direct to the hotel manager for their accommodations. Many members are familiar with the hotel and the size of the rooms. In order that the largest possible number of members may obtain accommodations it is requested that parties be formed so that two and, in some instances, four extra beds be placed in these large rooms, thereby providing additional facilities and accommodations. Plan to attend, organize your party and write to the manager for your reservations.

* * *

LEGISLATION

In this and in preceding issues, Editor Kress has imparted legislative activities and action. The history of health insurance in our legislature has also been recorded, but that history does not close the incident. With a Senate and an Assembly Interim Committee the question of health insurance will be introduced in the next session of the legislature in the form of one or more bills.

In order that all interests may be conserved it is very essential that every member accord thought and study to this important question and problem. All of the Association's material and references are available to members. Write for it for the purposes of becoming well informed and also for the purpose of enlightening your senators, assemblymen, and fellow citizens.

STATEMENT TO AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES[*][†]

In response to an inquiry made by a delegate from Massachusettes as to conditions in California, Dr. T. Henshaw Kelly, chairman of the Council, and serving as a California delegate, made the following statement at the June 11 session of the House of Delegates in Atlantic City. Excerpts from minutes follow:

DOCTOR MOLONY (California): With your permission, I will ask Dr. T. Henshaw Kelly of San Francisco, chairman of the Council of the California Medical Association, to give you this story.

DR. T. HENSHAW KELLY (California): Mr. Speaker and Members of the House of Delegates: In telling this story, I hope I will not trespass too long on your time, but I welcome the opportunity to do it.

In California we are two thousand miles away from a lot of the members of the American Medical Association, and in California we have some of the most acute problems in medical economics today. Doctor Molony has spoken of one of the things that happened in California, and medically we have been assaulted in that State by three big problems. The first is the freedom of licensure that they have in California for all sorts of less well-trained and less well-educated groups of practitioners of the healing art. The second is the county hospital problem, which they have out there to a very acute degree. Some of the supervisors in some of the counties—some eight or nine of them particularly—have found that hospitalization of their constituents in county hospitals at the county's cost is a fine way of maintaining their political prestige and their hold on office. In one sizeable county, Kern, in 1933 there were some 90 per cent of the patients who were hospitalized in the county hospital out of all patients in hospitals in the county during that year. In one of the other counties the percentage went up to 82 per cent of the total hospitalization. The third great problem that we have had out there has been that of hospital associations operated by corporations against the law and without, apparently, any attempt on the part of the constituted authorities of the State to interfere in any way with the operation of these associations—some of them good, some of them bad, and some of them plainly crooked—until about eighteen months ago when a couple of the district attorneys did take some of these people to the "cleaners."

In 1929 the California Medical Association, through its Council, began a study of a possible means of a statewide plan for medical care and hospitalization on a budget basis, or on somewhat of an insurance plan. The plan was very carefully studied, but in 1930 it was found necessary to abandon the plan because of the difficulty in instituting a thing like that under the existing law without putting too much financial responsibility upon the members who formed the corporation which would do the business.

Matters rested there, fermenting in the bottom of the vat as all things will do if they are let stand too long. When the legislature met in 1933, there was a resolution introduced in the Senate of the California Legislature creating a committee of three senators with the duty of studying the matter of costs of sickness in California and of recommending to the legislature at its 1935 session a means of controlling the costs of sickness to the individual in the State of California, particularly the wage-earner in the State. This committee did very little work for about a year, and in 1934, at the annual session of the California Medical Association at Riverside, the Council of the California Medical Association had prepared a legal organization ready to go into operation, provided the Association would appropriate the necessary funds, to supply the wage-earning groups in California insurance against hospitalization, the Council feeling that that was the beginning step in the development of any sort of comprehensive care of the wage-earning group and feeling that the hospital bill is the hurdle which the sick man finds it hardest to jump.

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[*] Editors of state medical journals are invited to publish this statement in order that their members may gain an insight of California's problems.

[†] The remarks by Doctor Kelly were made in an executive session of the House of Delegates. However, since the *Journal of the American Medical Association* has printed portions of other speeches made in executive session, it would seem to be permissible to print those of Doctor Kelly.

In California we have a group of medical men who are members of their county societies and the California Medical Association who honestly believe—as in most other states—that in compulsory health insurance we have the only way to successfully meet the insurance problem; that if medicine endeavors to solve the costs of medical care on any kind of a budgetary or insurance basis it can only be done by compulsion. Despite the fact that the vote on the resolution to create this corporation was sixty-five in favor of it to fifty-four against, a two-thirds vote was required because of the fact that it involved appropriating funds of the Association, and the resolution was lost, lacking the two-thirds vote.

At that same Riverside meeting there was another resolution before the House which created a committee of five men which was given the duty of studying the problem of sickness and health insurance in California, of formulating a plan for health insurance in California, and of preparing a bill which might be available for presentation to the 1935 session of the California Legislature.

This committee began a survey of conditions in California as of 1934, all previous surveys anywhere in the country practically, with the exception of the Michigan one, having dated from somewhere around the tail-end of the boom, and we felt—or at least the committee did—that conditions were not quite the same in California in 1934 as they had been in 1929.

The committee conducted a comprehensive survey of the economic status of Californians—lay, medical, and dental. It spent some $34,000 of the Association's money and some $55,000 was appropriated by the SERA, in order to provide the field workers necessary to obtain the information from the families included in this survey. Very nearly twenty thousand families were consulted, and the Advisory Economic Council of this survey (which was composed of the professors of economics from the five big universities in the State) made some recommendations. During the conduct of this survey the Senate Interim Committee began to get active, one or two of the members beginning to see the political possibilities of health insurance in the State. The Council of the California Medical Association had two joint meetings with this Senate Interim Committee, in an endeavor to arrive at some sort of a general idea as to what the solution of the problem was going to be, and one of the members of the committee, I think, probably sold the idea to the others. The committee declared at one of these meetings that it was going to recommend a compulsory health insurance act. At the same time the Senate Interim Committee offered the California Medical Association the opportunity to write the bill.

We had been holding up a special meeting of the House of Delegates of the California Medical Association, hoping that by the time we had to call it we would have enough data available from the survey, which had been delayed by the SERA. Finally, the latest date at which we could call a special meeting of the House of Delegates was found to be the first two or three days of March because the legislature was already in its second session. The Senate Interim Committee was champing at the bit, wanting to file its report with the Senate. And so two weeks after the House of Delegates of the American Medical Association met, a special meeting of the House of Delegates of the California Medical Association convened at Los Angeles on March 2.

In that House of Delegates were, roughly speaking, three groups: opponents of compulsory health insurance who were divided into men who believed in trying voluntary health insurance, and men who believed in making no change; a middle group who had no violent opinions one way or the other and who were open to arguments of one kind and another; and a third group, to which I referred earlier in this talk, who were strongly convinced that in compulsory health insurance, medicine had the only solution to its economic problem.

When the House of Delegates met it spent a day and a half in debate, which was characterized not only by oratory but by the greatest courtesy and quietness. It was an earnest attempt on the part of the House of Delegates to arrive at some kind of a conclusion. It is interesting that health insurance, like certain other matters that come up every once in awhile before organized medicine, seems to produce in its violent proponents and its violent opponents moments that border almost on hysteria. After a day and a half of fervent but courteous debate, the middle group was convinced by the proponents of compulsory health insurance that compulsory health insurance was the thing for California at the moment.

Approaching that meeting, the Council of the California Medical Association felt, I think, after careful deliberation, that, considering the temper of the various camps, it was very much better to give the House of Delegates time to fight this matter out for itself and to make its own decisions rather than to have the Council, which had been turned down once before on the voluntary health insurance matter, come in and attempt to settle the matter itself.

The fact that the Senate Committee had offered medicine the opportunity to write the bill, the fact that the Senate Committee had already announced publicly that it was going to plump, if you will, for compulsory health insurance in California, the fact that we were dealing with a legislature composed of a considerable percentage of Epics and other groups who were pretty well declared proponents of social legislation of all sorts, convinced enough of the men, I think, that medicine in California had best adopt an attitude that has seldom been adopted by medicine before, and had best say that it was going to be in favor of compulsory health insurance and sit down and write the bill.

The upshot of this session of the House of Delegates was the declaration in favor of a compulsory health insurance act in California which was to contain certain principles, all of which, excepting one, were attainable. The one that is unattainable is the one that is unattainable in actuality on paper, the one which provided that medicine should determine all of the fees that were to be charged and the compensation that was to be paid and the nature and extent and necessity of the medical care.

I have not time to discuss here why that was unattainable in the legislature, but the House of Delegates created a Committee of Six which was to sit down with the Senate Committee and write this bill. They chose me on the committee, despite the fact that I had been one of the proponents of the voluntary hospitalization plan, and then did me the favor or disfavor of electing me chairman of the committee and we went to work to write the bill.

We wrote a bill which, as far as practicable to pass through any legislature, was a bill which provided practical control of all the medical matters in the act by the medical profession or at least by medical men; which provided free choice of physicians; and a bill which of necessity, as it tried to furnish a type of medical service that has never been furnished in a great country before, was very broad in the provisions of the power given to the Commission, and contained very little detail as to the set-up and management of the plan as it was proposed to be operated.

We turned the bill over to the Senate Committee, it was introduced into the Senate, and then some of the idealists began to find out what democracy is and how it works. Immediately the bill was assaulted by every special interest in the State. The lodges wanted to be exempted, all the hospital associations wanted to be exempted, the Christian Scientists wanted to be exempted; industry did not want to pay anything toward the support of the act, and when industry did not want to pay anything for the support of the act, labor said they did not want the act and they began a merry-go-round of pulling brass rings and iron rings off the post as the bill went whirling around in committee and out of committee in the Senate. While the fundamental principles in the bill were not changed very much, it became a bill which fundamentally was not compulsory. We were watching the bill very carefully because we had the Senate Committee's assurance that the moment we said "thumbs down on the bill" they would withdraw the bill. Finally, the enthusiastic members of the Senate Committee discovered that they could not pass the bill through that legislature because it would be either torn out of all recognition by forces working in the legislature for special interests, or the legislators would dodge voting on the bill because, as they said, "It's too hot."

The Senate put in another resolution for a second interim committee to function for the next two years. The bill had already been introduced under an Assembly number, and the Assembly, never to be outdone by the Senate, created an interim committee of its own to study health insurance for the next two years and to report back to the Assembly at the 1937 session of the legislature.

So at the present time the Health Insurance Act is, I will not say defunct, but it is quite nonmotile. There are two interim committees, one of the Senate and one of the Assembly, charged with the duty of studying health insurance, and, if necessary, presenting another act at the 1937 session of the legislature. So that our problem is not solved in California yet. We do not know what kind of a legislature we will have in 1937, we do not know what the economic situation in the State will be in 1937.

The chairman of the Council of the California Medical Association (dissociated now from the Committee of Six, which he feels did a remarkable piece of work in getting a bill together in the time that they did, and a bill of the kind that it was) feels that we must endeavor to keep the whole country medically informed of what is going on in California perhaps more than we have done before, and he hopes that it will be found possible to have a bit closer liaison between the offices and officers of the two associations than geography has made it possible to do in the past. Two thousand miles is a long way.

We had our Speaker come out to California as secretary right in the middle of this whirlpool. Knowing what some of the men in California thought about Hoffman and articles on health insurance, and so forth, and as chairman of the Council I had a feeling that one thing that we had to conserve in California, regardless of health insurance, was unity in the California Medical Association and unity between the California Medical Association and the American Medical Association. So we set the Speaker upon a rock where the waves of health insurance would not wet him, and we found it necessary, so far as some of our members were concerned, to keep most proponents of compulsory health insurance away from him, because he was something like a red rag to a bull to some of these enthusiasts.

What happened to the bill in the legislature calmed down even some of those. I think that they believed that ideals were fine up to the time the bill went to the legislature, and that since it got in the legislature their ideals of democracy at least, if not health insurance, have been somewhat tarnished.

I hope that it will be found possible for officers of the American Medical Association to maintain somewhat closer contact with us, because I do not think I misstate the fact when I say that California probably has the most acute problem. Even the Los Angeles Chamber of Commerce will admit that there are a lot of funny people in California. (Laughter.)

In closing, I want to say that even some of the active proponents of compulsory health insurance out there feel, as I heard one man express it the other day when he was talking about our going into compulsory health insurance, trying to write a bill and then finding out what really happened. He said when Cleveland was President, he liked to shoot ducks. One morning he was down on the marshes shooting ducks with a few of his friends, and each one had an old negro gun loader in the blind with him. They had had a poker game the night before and early in the morning, and the President was not hitting the ducks very well. The fact of the matter was, he had shot away ten or a dozen shells and he had not even made a duck jump, and the old negro was getting rather disgusted. Finally, he banged away at one lone duck that flattened out and fell on the marsh, and the old negro jumped out of the blind and said, "Lawdy, Mr. President! Dar's one dat flew into it." (Laughter and applause.)

THE SPEAKER: Is there any further discussion on this subject?

DR. C. E. MONGAN (Massachusetts): I wish to thank the gentleman from California for the very lucid explanation that he gave us of the conditions that exist.

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RAKING OLD LEAVES

The story is told that a local CWA administrator sent the following telegram to his superior: "Please send more leaves to rake, ours are worn out." In some respects this telegram applies to a certain group of physicians who ever since graduation have been raking and re-raking their old leaves of medical knowledge till they are worn out. New leaves were obtainable at their county and state medical meetings and in postgraduate courses, but they failed to wire to secure new leaves—they kept on raking their old leaves and they are worn out.

At the Yosemite annual meeting the House of Delegates arranged for a new supply of leaves as well as to send these "leaves" to our members. A Committee on Postgraduate Activities was authorized. The following members constitute the committee: Dr. Clarence G. Toland (chairman) and Dr. John C. Ruddock, both of Los Angeles, and Dr. F. F. Gundrum of Sacramento.

It is purposed to arrange to conduct two or three of these conferences in each councilor district. Clinical demonstration of modern practice will characterize these conferences. County secretaries have been requested to suggest suitable dates, and the State schedule will be announced in September.

A new supply of "leaves" to replace your old worn-out leaves may be secured if you determine to attend these conferences that constitute one of your membership benefits. Cease raking your old "worn-out leaves."

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CONTENTMENT

Arrival at a state of contentment is indicated by being content:

To watch the parade from the curb without desire to occupy a seat in the band wagon.

To remain on the ground, indifferent to the lure of aviation.

To possess financial resources adequate to pay one's debts, secure necessities and an occasional luxury, and provide for dependents.

To enjoy the spectacle of waving plumes without disposition to be a crusader.

To use the legs from time to time in negotiating distances between two points.

To read and read and write and write.

To play a hand well without undue concern over winnings or losses.

To cultivate genial companionship.

To boldly and without self-depreciation carry a cane or umbrella.

* * *

A sense of humor is an invaluable asset to an invalid or those in attendance upon him.

To laugh in a right place is an accomplishment.

COUNCIL MINUTES*

Minutes of the Two Hundred and Thirty-Seventh Meeting of the Council of the California Medical Association

The following minutes were approved by the Council by mail vote.

Held in Room 210 of the Sir Francis Drake Hotel, San Francisco, Saturday, May 25, 1935, at 9:30 a. m.

1. **Call to Order.**—The Council was called to order by the chairman, T. Henshaw Kelly, with the following members present: Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; W. W. Roblee, speaker; T. Henshaw Kelly, chairman; Councilors Karl L. Schaupp, C. L. Emmons, Henry J. Ullmann, M. R. Gibbons, A. L. Phillips, O. D. Hamlin, W. H. Kiger, Henry S. Rogers, Charles A. Dukes; Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Doctors J. B. Harris, Carl R. Howson, and C. O. Tanner.

2. **Finances of Association.**—The secretary reported that on May 24 the bank balance of the Association was $3,497.14; that the total expended by the Department of Public Relations since March, 1935, for publicity was $850. A report was rendered on expenses incurred relative to the health insurance bill, and the Committee of Six.

The work performed by Professor Canning was discussed in detail by various members of the Council.

Moved by Councilor Ullmann, seconded by Chairman of Public Relations Committee Dukes, that the expenses incurred by the Committee of Six be referred to the Auditing Committee with instructions that said committee obtain itemization of all expenses incurred, review the same and refer it to the Executive Committee with power to act. Carried.

3. **Recess.**—At this point a recess of the Council was taken to permit a meeting of the Trustees of the California Medical Association.

4. **Committee of Six.**—After the recess, further discussion was had of the activities of the Committee of Six. A letter from the Sacramento Society for Medical Improvement was read regarding the work of the Committee of Six.

Moved by President Peers, seconded by President-Elect Pallette, that at the end of the present session of the legislature the Committee of Six immediately present its final report to the Council. Carried.

On motion of Councilor Phillips, seconded by Chairman of Public Relations Committee Dukes, the following resolution was adopted:

WHEREAS, The Committee of Six, created by the House of Delegates of the California Medical Association at Los Angeles on March 3, 1935, requested the services of John B. Canning, professor of economics at Leland Stanford, Jr., University, to aid in the development of the medical economic aspects of a health insurance act being developed under instructions of the House of Delegates; and

WHEREAS, Doctor Canning worked with the Committee of Six in drafting Senate Bill 454 and spent time in Sacramento with the committee and with the Legislative Counsel Bureau in reviewing changes in Senate Bill 454; and

WHEREAS, These services to the Committee of Six of the California Medical Association required almost continuous absence from his home and his duties at Stanford University, the University having excused him; therefore be it

RESOLVED, That at the request of the Committee of Six the Council approve the granting of an honorarium to Professor Canning for his untiring and invaluable service to the Committee if Six and the California Medical Association; said honorarium not to exceed $500.

On motion of Councilor Gibbons, seconded by Councilor Hamlin, the suggestion to secure a poll of all licensed physicians and surgeons in California, to ascertain their opinions as to compulsory health insurance, was ordered placed on the docket as a special item of business for consideration at the next regular meeting of the Council. Carried.

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* The minutes of the two hundred and thirty-sixth meeting of the Council of the California Medical Association were printed in the July, 1935, issue of CALIFORNIA AND WESTERN MEDICINE, page 94.

5. **Committee of Five.**—The matter of distribution of the report of the Committee of Five, as recommended by the House of Delegates, was postponed pending receipt of the completed report.

On motion of Editor Kress, seconded by Councilor Kiger, the following resolution was adopted:

Whereas, At the annual session of the California Medical Association held at Riverside in April, 1934, the House of Delegates authorized the appointment of a Committee of Five to make a survey of sickness incidence in California and the costs incident thereto; and

Whereas, Such survey has been made by the Sub-Committee on Survey appointed to collect the necessary data; and

Whereas, The House of Delegates at the Yosemite annual session approved the following recommendations of Reference Committee No. 2:

"Your committee recommends that the survey being conducted by the Committee of Five in response to the resolution passed by the House of Delegates at Riverside be brought to a close, as the report states that the field work of the survey is now complete.

"Your committee recommends that no more moneys be appropriated to the Committee of Five for survey purposes except as the Council of the California Medical Association in its judgment will authorize in order to close the survey and evaluate the material from a medical standpoint."

Whereas, The costs of such survey were estimated by the subcommittee so appointed to not exceed the sum of $14,000; and

Whereas, The actual costs of the said survey have amounted to date (May 25, 1935) to the sum of $31,350; and

Whereas, The state of finances of the California Medical Association is such that it is impossible to continue expenditures of such great amount, unless the results attained therefrom shall be of special value to the California Medical Association; now, therefore, be it

Resolved, That the Council of the California Medical Association at its meeting on May 25, 1935, herewith thank the Committee of Five—Doctors W. R. Molony, Sr., Harry H. Wilson, Alson R. Kilgore, Robert A. Peers, and Rodney A. Yoell—who have so faithfully and efficiently carried out the instructions given them and who herewith have the unanimous thanks of the Association, through its Council, for the labors they have so generously performed; and be it further

Resolved, That in view of financial conditions facing the Association, it is now imperative that further expenditures be made only for such work of the said Survey Subcommittee as may be necessary to bring the work to an immediate conclusion and as have already been authorized; and be it further

Resolved, That the Committee of Five, in line with the above facts, is herewith instructed to bring its investigations to an early conclusion; and be it further

Resolved, That the Secretary is herewith instructed to confer with the Committee and take such steps as may be agreed upon to bring the investigations to an early conclusion, as soon as possible, and to transfer all records accumulated to the office of the Association for such further study and action as the Council may deem proper.

6. **Auditing Committee.**—The chairman announced that, in accordance with a constitutional provision, he had named as members of the Auditing Committee, Doctors Morton R. Gibbons, Oliver D. Hamlin, and Karl L. Schaupp (chairman).

Moved by Councilor Rogers, seconded by Councilor Phillips, that the membership of the Auditing Committee, as recommended by the chairman, be approved. Carried.

7. **Maternal Welfare.**—The Speaker reported that appointment of the Committee on Maternal Welfare, authorized by the House of Delegates, would be postponed pending receipt of the annual session Section minutes from Section officers.

8. **Recess.**—At this point a recess was taken for luncheon.

9. **Call to Order.**—After the recess the meeting was called to order by the chairman, T. Henshaw Kelly.

10. **Gratuitous Medical Service.**—John H. Graves, Chairman of the Committee on Medical Economics, discussed the value of statistical data on gratuitous services rendered by physicians and surgeons.

Moved by Editor Kress, seconded by Councilor Ullmann, that the Committee on Medical Economics, in conjunction with the secretary of the Association, as coördinator, be instructed to make a survey of this particular problem, to the end that all gratuitous medical service rendered by physicians in out-patient and in-patient care be tabulated, and that the Committee on Medical Economics render a report of its findings to the Council. Carried.

11. **Codes for Disciplinary Procedures.**—Moved by Councilor Gibbons, seconded by Councilor Phillips, that the chairman be authorized to appoint the Committee on Codes for Disciplinary Procedures, recommended by the House of Delegates. Carried.

Chairman Kelly appointed the following as members of the committee: William W. Roblee, Riverside; Louis Packard, Bakersfield; Oscar Reiss, Los Angeles; Vincent Askey, Los Angeles; and F. C. Warnshuis, ex officio.

12. **Publicity Department.**—Full discussion was had as to efficient means of carrying on a publicity program for the Association under the budget authorized by the House of Delegates.

Moved by President-Elect Pallette, seconded by Councilor Kiger, that the publicity authorized in the item of the budget be handled by the Director of the Department of Public Relations, under the supervision of the Public Relations Committee. Carried.

Mr. Silverman having been engaged on a temporary basis, his services were dispensed with in accordance with the above resolution and not for any reason of unsatisfactory service on his part.

Moved by Speaker Roblee, seconded by President-Elect Pallette, that the Committee on Public Relations write to the Woman's Auxiliary in each county where it exists, and to the county secretary where no Auxiliary exists, asking them to submit a suggestive list of public libraries, high-school and college libraries, clubs, and such other places as they deem advisable where medical literature could be placed to advantage for educational purposes. Carried.

13. **Delegates to the American Medical Association.** The secretary stated that Delegate Charles A. Dukes and his alternate, Delegate Edward N. Ewer, had advised that they would be unable to attend the Atlantic City meeting of the American Medical Association. It was suggested that since T. Henshaw Kelly was required to attend the Atlantic City meeting on Association business, he be elected delegate, thus eliminating the railroad and Pullman fare of one delegate.

Moved by Chairman of Public Relations Dukes, seconded by Councilor Phillips, that T. Henshaw Kelly be elected as a delegate to the American Medical Association to serve in place of Charles A. Dukes, delegate, and Edward N. Ewer, alternate. Carried.

14. **Legislation.**—The general counsel reported on Assembly Bills 246 and 1765, Senate Bill 471, and the effects of such legislation on the practice of medicine.

Mr. Peart recommended that the Executive Committee give serious study and consideration to these bills.

Moved by Editor Kress, seconded by Chairman of Public Relations Dukes, that the Executive Committee be instructed to give special attention to these legislative matters and formulate a program of procedure to be presented to the Council at its next meeting. Carried.

Moved by Editor Kress, seconded by President-Elect Pallette, that the secretary of the Association, six months prior to the next session of the legislature, contact the State Board of Health and the State Board of Medical Examiners and secure a list of the acts or amendments which those bodies contemplate sponsoring, and that a similar list be furnished these organizations by the California Medical Association. Carried.

15. **Postgraduate Conferences.**—Moved by Chairman of Public Relations Committee Dukes, seconded by Councilor Schoff, that Dr. Clarence G. Toland and Dr. John C. Ruddock be named as members of the Committee on Postgraduate Conferences and that the Council delegate to the president the authority to name the third member of the committee, and that the secretary take up the matter of selecting an advisory committee with the committee. Carried.

16. **California and Western Medicine.**—The secretary reported on comparative expense of mailing the Journal in envelopes and wrappers.

Moved by Councilor Ullmann, seconded by Chairman of Public Relations Committee Dukes, that no change be made in mailing of the JOURNAL and that the use of wrappers be continued. Carried.

17. **Relief Program.**—Councilor Gibbons and Secretary Warnshuis reported on the conference had with the Relief Administrator and stated that they believed a protest should be made to the Federal Administrator, Harry Hopkins, regarding the proposed new program for medical relief.

Moved by Councilor Gibbons, seconded by Councilor Phillips that the chairman of the Council, the secretary, and the president be instructed to forward such protest, on behalf of the California Medical Association. Carried.

18. **Retired Membership.**—Membership data and request for retired membership from the Tulare County Medical Society for John Tracy Melvin was read.

Moved by Councilor Rogers, seconded by Speaker Roblee, that John Tracy Melvin of Porterville, member of the Tulare County Medical Society, be granted retired membership in the California Medical Association. Carried.

19. **Voluntary Health Insurance Plans.** — A letter was read from Alson R. Kilgore suggesting that available data be collected on voluntary health insurance plans in the United States.

On motion duly made, seconded and carried, the secretary was instructed to advise Doctor Kilgore that the matter would be referred to the Executive Committee for study and report to the Council. Carried.

20. **Constitution and By-Laws.**—On motion of Councilor Rogers, seconded by Councilor Kiger, the secretary was authorized to secure a reprinting of one thousand copies of the Constitution and By-Laws. Carried.

21. **Tuberculous Indians.**—On motion of Councilor Ullmann, seconded by Councilor Kiger, the letter from the State Chairman of Indian Citizenship regarding the care of tuberculous Indians, was referred to the California Tuberculosis Association, and the secretary was instructed to so advise the chairman of the committee. Carried.

22. **Legislation.**—T. Henshaw Kelly reported further on legislation.

Moved by Councilor Ullmann, seconded by Councilor Gibbons, that the Council authorize the Committee on Public Policy and Legislation to take any steps that it may deem necessary or wise in amending or opposing Senate Bill 471 and/or Assembly Bill 246. Carried.

23. **Adjournment.**—There being no further business to come before the Council, the meeting adjourned at 5 p. m.

T. HENSHAW KELLY, *Chairman.*
F. C. WARNSHUIS, *Secretary.*

EXECUTIVE COMMITTEE

Minutes of the Two Hundred and Twenty-Second Meeting of the Executive Committee of the California Medical Association

Held at the Sir Francis Drake Hotel, San Francisco, Saturday, July 13, 1935, at 11:30 a. m.

1. **Call to Order.**—The meeting was called to order by the chairman *pro tem*, with the following members present:

Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; William W. Roblee, speaker; T. Henshaw Kelly, chairman of the Council; Karl L. Schaupp, chairman of the Auditing Committee; Charles A. Dukes, chairman of the Public Relations Committee; George H. Kress, editor; F. C. Warnshuis, secretary; Hartley F. Peart, general counsel. J. B. Harris, chairman of the Committee on Public Relations, was also present.

2. **Election of Chairman.**—The secretary stated that the first order of business was the election of a chairman, and that nominations were in order.

On nomination of President-Elect Pallette, seconded by Chairman of Public Relations Committee Dukes, Karl L. Schaupp was unanimously elected chairman of the Executive Committee for the ensuing year. Doctor Schaupp then took the chair.

3. **Coronado Meeting.**—Discussion was had of the date of the annual meeting at Coronado in 1936.

On motion of Chairman of Public Relations Dukes seconded by President-Elect Pallette, the Executive Committee recommended that the date of the annual session at Coronado be set as May 25 to 28 inclusive, and that a mail vote of the Council approving the date be secured. Carried.

The secretary reported on meeting-room facilities at Coronado. The question of a meeting room for the Woman's Auxiliary was discussed in detail.

Moved by President Peers, seconded by Councilor Kelly, that the Patio dining room be allocated to the Woman's Auxiliary as a meeting place.

4. **Financial Statement.**—Financial statement for the month of June, 1936, was presented by the secretary and approved by the committee.

Reports on the expenses of the Committee of Five, the Committee on Public Policy and Legislation and the Committee of Six were submitted in detail and after audit were approved for payment.

5. **Committee of Five.**—Letter addressed to Doctors Molony and Wilson under date of May 27, in accordance with the instructions of the Council regarding termination of economic survey, was read, together with letter from Professor Dodd regarding need of further contributions to the survey for expenses.

Moved by Councilor Kelly, seconded by Chairman of Public Relations Committee Dukes, that pursuant to the resolution adopted by the Council on May 25, 1935, the Executive Committee request the Committee of Five to immediately prepare a detailed report upon the present status of the economic survey, and that the secretary of the Association be instructed to proceed to Los Angeles and coöperate with the Committee of Five in preparing this report. Carried.

In accordance with the action of the State Board of Health, Editor Kress presented a communication from the office of the Coördinator of Statistical Projects of the Emergency Relief Administration regarding the economic survey.

6. **Invited Guests—Yosemite Meeting.**—The secretary submitted a report on expenses of invited guests at the annual session at Yosemite and stated that income at the annual session exceeded expenses by $773.40.

7. **Committee of Six.**—T. Henshaw Kelly, chairman of the Committee of Six, submitted a detailed report on the expenses of his committee.

Expense account as submitted by Doctor Catton for Committee of Six was presented, and on motion of Dukes, seconded by Speaker Roblee, the Committee recommended payment of the bill. Carried.

Letter from Professor Canning regarding $500 honorarium was read and the matter was referred to Doctor Kelly for discussion with Professor Canning and report to the Council.

8. **Poll of Physicians on Health Insurance.**—The suggested poll of physicians and surgeons on health insurance was referred to the September meeting of the Council.

9. **Funds.**—On motion of Speaker Roblee, seconded by Vice-President Pallette, the officers of the Association were authorized to transfer $15,000 of the funds of the Trustees Of The California Medical Association to the Association's account.

10. **Forest Preserves.** — Secretary Warnshuis reported on the contact he had made with the California State Chamber of Commerce Forestry Reserves, whereby the California Medical Association would suggest appointees for the Forestry Medical Corps throughout the State.

On motion of President-Elect Pallette, seconded by President Peers, the Executive Committee approved the action of the secretary in authorizing the appointment of men on the Forestry Medical Corps through the county medical societies. Carried.

11. **Illustrations for Case Reports.**—Upon recommendation of Editor Kress, the Journal adopted the policy of limiting the outlay for illustrations for case reports to the sum of $5; any additional cost for illustrations are to be borne by the author.

12. **Historical Data.**—Editor Kress was authorized to secure the services of a stenographer to interview Doctor Widney, aged ninety-four, to secure from him valuable historical statements regarding the early history of medicine in California, and the history of the California Medical Association.

13. **Legislation.**—Upon recommendation of Editor Kress and by motion duly made and seconded, the secretary was directed to write to the Governor of the State conveying to him the endorsement of our members of Assembly Bill 1765, which provides for restrictions for the granting of professional degrees for nondescript corporations. On similar motion and recommendation the secretary was directed to write the Governor endorsing Assembly Bill 1281 relating to foods and Assembly Bill 1282 relating to drugs.

14. **Legal Department.**—Mr. Peart read a legal report prepared in regard to hospitalization insurance. Doctor Pallette moved that a copy of this report, together with a copy of Assembly Bill 246, be sent to every member of the Council. Chairman of Public Relations Dukes seconded the motion. Carried.

15. **Hospitalization Plans.**—Moved by Editor Kress, seconded by Councilor Kelly, that the secretary of the Association make a trip to Kings County, Washington and bring back documentary evidence on hospitalization. Carried.

16. **Date of Council Meeting.** — On motion duly made, seconded and carried, the date of the next meeting of the Council was set as September 7 at Los Angeles.

17. **Adjournment.**—On motion of Chairman of Public Relations Dukes, seconded by President-Elect Pallette, the meeting adjourned at 2:30 p. m.

Karl L. Schaupp, *Chairman.*
F. C. Warnshuis, *Secretary.*

COMMITTEE ON MEMBERSHIP AND ORGANIZATION

Minutes of Meeting of July 14, 1935

The Committee on Membership and Organization of the California Medical Association convened in the Association's offices in San Francisco at 10:30 a. m., July 14, 1935.

1. The chairman of the committee, Dr. Vincent Askey, called the conference to order. There were present, besides the chairman, Dr. Thomas McGavack and the State Secretary. Dr. D. R. Powell, the other member of the committee, was not able to be present because of absence from the city.

2. The secretary outlined in general the policy that would be observed in an effort to secure the affiliation of all eligible physicians. He also outlined the results that were being noted from the change that was made in sending members certificates of membership for framing and displaying in their offices. He also advised that there was contemplated a conference of all county secretaries some time in the early fall, at which time a plan for a membership campaign would be presented to county secretaries.

3. There ensued a general discussion regarding the method that has been adopted by the Los Angeles County Medical Association and the San Francisco County Medical Society for increasing membership. It was recommended that the secretary secure an outline of these plans and methods and make them available to other county societies and that they be sent to county secretaries in a bulletin by mail.

After general discussion of the possibilities for increasing the Association's membership, the meeting adjourned.

F. C. Warnshuis, M. D.,
Secretary.

COMPONENT COUNTY MEDICAL SOCIETIES

VENTURA COUNTY

The regular monthly meeting of the Ventura County Medical Society was held on May 14 at the County Clinic Building.

The minutes and business meeting were dispensed with, due to the absence of the secretary.

Doctor Homer introduced Dr. Karl Kretzschmar of Los Angeles, who gave an interesting paper on *The Injection Treatment of Hernia.*

* * *

The regular monthly meeting of the Ventura County Medical Society was held on June 11 at the County Clinic Building.

The new SERA fee schedule was discussed, but no action was taken due to the fact that the worker is supposed to pay his own medical bills under the new federal program.

Doctor Smolt moved, Doctor Clark seconded, and it was voted to instruct the secretary to submit the dates of our regular meetings to the State Association officers so they can choose the meeting which will be the most convenient for them to attend.

As there is a lay movement for a tuberculosis preventorium, a survey of school children was made by Doctor Smolt at the request of the County Supervisors. The incidence of the disease was found to be very low, but there are no adequate facilities for taking care of the open cases. The suggestion was made that this lay group be induced to coöperate in establishing a satisfactory method to care for these cases. The members of this Society feel that the best method of prevention is the proper isolation of the active cases.

A report of the State Association meeting at Yosemite was given by Doctor Morrison and supplemented by Dr. H. Ullmann.

Our present Constitution and By-Laws were discussed, and it was decided to submit them to the State Secretary to determine whether or not revision is necessary.

A. A. Morrison, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (22)

Alameda County.—Charles E. Cocks, Jr., Charles H. DeVaul, Glenn R. Dorius, Arthur J. Fleisher, Harry W. Kelley, Gordon Mannerstedt, Helen Jean Snook.

Monterey County.—Elliott Rouff.

Napa County.—Marie Boehm.

Sacramento County.—Francis J. Cox, Loris E. Curtis.

San Francisco County.—Alfred A. Bacigalupi, David D. Charmak, Lloyd L. Penn, Malcolm Jones, Robert A. Steven.

Santa Cruz County.—William L. Young.

Sonoma County.—Herbert M. Every, Catherine M. Quinlan, Josephine Williams.

Stanislaus County.—A. P. Von Hungen.

Transferred (2)

W. Phillip Corr, from Los Angeles County to Riverside County.

Marshall E. Porter, from Santa Clara County to Sonoma County.

In Memoriam

Beattie, David A. Died at San Jose, May 26, 1935, age 66. Graduate of Trinity Medical School, University of Toronto, Faculty of Medicine, 1892. Licensed in California in 1895. Doctor Beattie was a member of the Santa Clara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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Forline, Hamilton. Died at Los Angeles, July 6, 1935, age 67. Graduate of Northwestern University Medical School, Chicago, 1893. Licensed in California in 1899. Doctor Forline was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✢

Irwin, Stewart Vernon. Died at San Francisco, July 1, 1935, age 48. Graduate of Johns Hopkins University School of Medicine, Baltimore, 1915. Licensed in California in 1920. Doctor Irwin was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✢

Poole, Richard Ernest. Died at Yountville, June 14, 1935, age 56. Graduate of the University of Maryland School of Medicine and College of Physicians and Surgeons, 1902. Licensed in California in 1914. Doctor Poole was a member of the Napa County Medical Society, the California Medical Association, and the American Medical Association.

OBITUARY

David A. Beattie

1869-1935

David A. Beattie died in San Jose on May 26, 1935. He was a graduate of Trinity Medical School, University of Toronto, Canada, in 1892. Doctor Beattie was a Fellow of the American College of Surgeons, member of the American Medical Association, California Medical Association, and Santa Clara County Medical Society.

He spent the early years of his practice as a medical missionary in Canton, China. Upon his return in 1894, he established practice in the Santa Clara Valley, where he enjoyed an enviable reputation as general practitioner, with special training in surgery. Doctor Beattie was one of the first men in this locality to perform the operation of appendectomy. For over thirty years he was district surgeon with the Southern Pacific Company.

Doctor Beattie was ever interested in the progress of the medical societies of the state and county. He served his community in the capacity of health officer for a period of time. During the last few years of his life, due to a severe chronic illness, he was unable to engage in active practice, but his mind and heart were always struggling with the problems of science and medicine. T. V. Moore, M. D.

C. M. A DEPARTMENT OF PUBLIC RELATIONS*

Minutes of the Meeting of July 13, 1935

1. **Call to Order.**—The meeting of the Committee on Public Relations was called to order by the chairman, Doctor Dukes, in the Sir Francis Drake Hotel at 2 p. m. on Saturday, July 13. The following members responded to the roll call: Doctors Fred B. Clark, Daniel Crosby, Junius B. Harris, C. A. Dukes, Robert A. Peers, Edward M. Pallette, and the Director.

Absent: Doctors Morton R. Gibbons and John H. Graves.

2. The Director of the Department of Public Relations discussed with the committee the problem of State Fair exhibits this fall. He secured space estimates, and the rental of these spaces would amount to approximately $600; in addition, there would be the expense of preparing exhibits, the expense of an attendant, freight cartage, and labor. So that these exhibits, in order to be at all satisfactory, would entail an expenditure of some $2,000.

The Director recommended to the committee that the exhibits at the State Fair and the Pomona Fair in Los Angeles County be abandoned. The Director further recommended that in lieu of these fair exhibits the department arrange for health institute exhibits to be held in various counties in coöperation with the County Medical Society, the Woman's Auxiliary, and other lay organizations. These exhibits will touch on the progress of scientific medicine, preventive measures and allied subjects; and that they be arranged in some large central hall adjacent to a hall and that they be conducted from one to three days, according to the expression of the local county groups; that during these exhibits there be at short intervals brief talks on health and medical subjects, given by members of the Association; and that slides illustrating these health subjects be prepared. The Director further suggested that through these health institutes, there would be aroused a public interest and there would be accorded to the institute a certain amount of publicity that would be helpful.

On motion of Doctor Pallette, supported by Doctor Askey, the recommendations of the Director were approved and he was directed to proceed along the lines outlined in his recommendation.

3. The Director reported progress that was being made in preparing a corps of speakers and subjects for a program of state-wide lectures on public health before lay organizations. Contact is being made with county societies and they will in turn secure for the Director the names of the members who are willing to fulfill these speaking engagements at meetings sponsored by lay organizations. It is contemplated to have a pamphlet prepared outlining the program, and this outline should be ready for publication and distribution by the early part of September. Before the pamphlet is printed, it is to be submitted to the Committee on Public Relations for approval.

Upon motion of Doctor Clarke, seconded by Doctor Askey, the recommendations of the Director were approved.

4. The Director reported that he was compiling a list of suitable reference books to be sent to public libraries in the State, with the recommendation that when libraries are purchasing new reference books on medical subjects they be guided by this list, which is approved by the California Medical Association. The list consists of some eighty-five pages of reference text and articles, and is a safe guide for librarians in making purchases of reference books.

The Director also stated that he was contacting the various librarians of the State, ascertaining the number of persons being served by these libraries and would, upon receipt of this information, formulate a list to be submitted to the Committee on Public Relations for the purpose of recommending that the State Association send to these libraries a copy of *Hygeia* with the compliments of the California Medical Association.

5. The Director reported that he had addressed communications to the heads of various governmental agencies in California tendering the advisory services and recommendations of the California Medical Association in all problems that may come before these State governmental agencies which are related to public health and medical services. The Director read a number of replies that he had received expressing appreciation of this proffer and assuring him that they would avail themselves of this service.

6. On motion of Doctor Clarke, supported by Doctor Crosby, the Director was instructed to contact the officers and committees on public relations of the several nursing associations of California for the purpose of arranging a joint meeting at some future date.

7. On motion of Doctor Clarke, supported by Doctor Peers, the Director was instructed to secure a number of brief articles related to scientific medicine and service of our profession to present to the com-

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* The complete roster of the Committee on Public Relations is printed on page 2 of the front advertising section of each issue. Dr. Charles A. Dukes of Oakland is the chairman, and Dr. F. C. Warnshuis is the secretary. Component County Societies and California Medical Association members are invited to present their problems to the committee. All communications should be sent to the director of the department, Dr. F. C. Warnshuis, Room 2004, Four Fifty Sutter Street, San Francisco.

mittee with the idea that these may be distributed in a series each month by enclosing them with bills that are rendered for electric-light service by our public utility corporation.

8. On motion of Doctor Askey, supported by Doctor Clarke, the committee adjourned at 3:45 p. m. The next meeting is to be held subject to the call of the Director.

Certified to as a true copy of the minutes of the meeting of the Committee on Public Relations, held July 13, 1935.

F. C. Warnshuis, M.D.,
Director.

* * *

Letters from California State Departments in Reply to Offer of Coöperation by California Medical Association

For the information of California Medical Association members who are interested, letters received in reply to a communication sent out by Association Secretary Warnshuis, tendering the services of the California Medical Association in an advisory capacity whenever medical or health problems arose, are here reprinted. A perusal of these communications will indicate that the past services of organized medicine as represented by the California Medical Association have been cordially received and appreciated.

Letters follow:

State of California
Department of Institutions

July 12, 1935.

Frederick C. Warnshuis, M. D., Director,
California Medical Association,
450 Sutter Street,
San Francisco, California.

Dear Doctor Warnshuis:

Your letter of July 10 offering the services of the California Medical Association in medical problems of this department has been received and I wish to thank you.

Should we be able to make use of the facilities you offer, we will be glad to take problems up with you.

With kindest regards, I am

Yours sincerely,
(Signed) Harry Lutgens,
Director of Institutions.

* * *

State of California
Department of Institutions

Dear Doctor:

Replying to your letter of July 10.

I am very glad to have your letter tendering the facilities of the California Medical Association on matters involving health and medical factors.

In this connection I am informed by Mr. Dunwoody that he has talked with you regarding the Forestry Medical Corps which is being sponsored by the California State Chamber of Commerce, and hope that the California Medical Association can be of some service in that connection.

The next time you are in Sacramento, I will be glad to see you in regard to this matter. I appreciate very much your splendid offer of coöperation.

Yours very truly,
(Signed) M. B. Pratt,
State Forester.

* * *

State of California
Department of Social Welfare

Dear Doctor Warnshuis:

Your letter on behalf of the California Medical Association has been received.

The kindness of that organization in placing at our disposal all the facilities and your assistance in problems involving health and medical factors is greatly appreciated.

Very sincerely yours,
(Signed) Florence L. Turner,
Director, Department of Social Welfare.

* * *

State of California
Board of Barber Examiners
Sacramento, California

Dear Doctor Warnshuis:

I am in receipt of your letter of July 10, and want to thank you very much for your offer of your department to coöperate with this Board. The next time that I am in San Francisco I have a matter which I would like to take up with you.

This Board has always felt in the past that it was proper for us to coöperate in every way with the medical associations in California as well as with the Medical Board and the Board of Health, and we can assure you that we have had the coöperation of the Medical Board and also its advice, and also the Board of Health, in working out certain problems confronting this Board. I am proud to say that the medical profession throughout the State has coöperated with us 100 per cent.

For instance, we have had barbers attempt to remove warts and moles from patrons in the barber shop and we have had the coöperation of the Medical Board in such cases. In one instance we submitted information to the Medical Board and a conviction was obtained in the Los Angeles district.

Again assuring you of our appreciation of your offer, and thanking you in advance for same, we remain

Yours very truly,
State Board of Barber Examiners.
(Signed) C. E. Rynearson,
Secretary.

* * *

State of California
Employees' Retirement System

Dear Doctor Warnshuis:

The Retirement Board appreciates your letter of July 10, 1935, containing the generous offer of the services of your Association in helping the Board in its administrative problems under the Retirement System. The Board has always felt that medical problems arising under the system should be handled in exactly the same manner as a life insurance company handles its medical problems, that is, through private physicians who are paid regular fees for whatever services they perform. The Board realizes, however, that problems may arise which do not involve medical services in individual cases, but rather medical advice on general policies. In such cases we are sure that your Association can be of assistance.

Again expressing our appreciation of your offer, we are

Yours truly,
Board of Administration, State Employees' Retirement System.
By Ralph R. Nelson,
Actuary.

* * *

California State Chamber of Commerce
Agriculture and Industry

Dear Doctor:

I find it necessary for me to be absent from the city for the balance of this week, and I am enclosing under separate cover a copy of the forestry medical corps certificates in blank and one filled out for your good self, as regional medical officer for the Central Coast District. This, of course, is subject to your approval. I feel that you are the logical man to handle that region.

I am also enclosing a rough draft copy of a proposed letter to be sent to the regional medical officers when selected; also a suggested rough draft letter for the regional medical officer to send to the county officer. I wish you would look these over carefully and suggest any changes you may feel are needed.

I will return to the city Monday and if I may trespass upon your time, would like to discuss further plans as well as start the appointment of the personnel you may have approved by that time.

I am also enclosing a facsimile of the badge which will be issued to each medical officer. On the banner where the word "chief" is inscribed, the word regional county or local will be placed, according to the title held by the wearer.

I discussed this matter with the forest officers the other day and they were pleased at the action by the California Medical Association. I have ordered a respectable-looking rubber stamp to be used on the certificates issued, which states that the organization is sponsored by the California State Chamber of Commerce and the California Medical Association.

Very sincerely yours,
(Signed) Charles G. Dunwoody,
Director, Conservation Department.

* * *

Other letters received, and all in commendation, were from the following State departments:

Department of Public Works, by Earl Lee Kelly, Director of Public Works.

Division of Criminal Identification and Investigation, by C. S. Morrill, Chief of Division.

Department of Agriculture, by A. A. Brock, Director.

Department of Military and Veterans' Affairs, by Thomas M. Foley, Chairman, Veterans' Welfare Board.

Department of Natural Resources, by George D. Nordenhol, Director Natural Resources.

Division of Military Affairs, by Paul Arndt, Acting Adjutant General.

Department of Natural Resources, Division of Fish and Game, by Gilbert C. Davis, Executive Officer.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

MRS. THOMAS J. CLARK ....President
MRS. ELMER BELT......Editor and Chairman of Publicity

Minutes of the Meeting of the Board of Directors

The pre-convention meeting of the Board of Directors of the Woman's Auxiliary to the California Medical Association (sixth year, fourth meeting) was held at the Ahwahnee Hotel, Yosemite National Park, on Monday, May 13, at 9:30 a. m., Mrs. Philip Schuyler Doane presiding. . . .

Mrs. Scatena, convention chairman, reported on the final details of the convention. It was moved by Mrs. Sargent and seconded by Mrs. Belt, that a vote of thanks be given to Mrs. Scatena for the success of her efforts. Carried.

The report of the treasurer, Mrs. Scatena, showed a balance on May 5, 1935, of $506.38. This report was then summarized according to the items in the budget, Mrs. Doane reading the budget, and Mrs. Scatena the treasurer's figures. The total spent was $692.82 against a budget of $695.

Mrs. Scatena read the statement of Mr. N. L. Hetherington, public accountant, to the effect that the books had been audited by him and found to be correct. It was moved by Mrs. Sargent and seconded by Mrs. Barrow that the auditor's report be accepted. Carried.

Mrs. Clark, finance chairman, then presented the tentative budget for 1935-1936.

Probable income from dues (1,100 members at 75 cents)	$825
Probable registration fees	150
	$975

Stationery	$ 75
Supplies and office equipment	10
Stenographer and clerical help	125
Postage	60
Telephone and telegraph	40
Convention	150
Editor	75
Discretionary fund	225
	$760

Mrs. Sargent moved that the Board of Directors recommend the above tentative budget to the House of Delegates. Motion seconded by Mrs. Belt, and carried.

The committee reports were given verbally.

Membership.—Mrs. Sargent opened a discussion as to whether the number of members should be reported as of April 1, December 31, or from convention to convention. Mrs. Scatena moved that we base our membership record each year from convention to convention. Mrs. Sargent seconded the motion, which was carried. Mrs. Sargent reported three new counties in process of organization—Siskiyou, Marin, and Lassen-Plumas. Imperial County is also likely to organize. She emphasized the point that these contacts must be personal. Mrs. Doane reported that San Bernardino County is reorganizing.

Program and Health Education.—Mrs. Howard reported that she has received very few reports from the counties.

Public Relations.—Mrs. Barrow reported that the counties have been working well since the winter months.

Public Health Activities.—Mrs. Sutherland being absent, Mrs. Sargent reported that she is developing a health institute program for Alameda County.

Editor and Publicity.—Mrs. Belt reported that a pictorial map has been prepared for exhibit at the State and National conventions. Extra copies of the *Courier* were sent in April to the wives of the doctors in Mendocino County.

Hygeia.—Mrs. Baxter will report on work done by all counties that she has heard from in her annual report.

A motion to accept these reports as a whole was made by Mrs. Newman and seconded by Mrs. Clark. Motion carried. . . .

The secretary then read the recommendations made by the committee chairmen and board members.

Recommendations of the President.—1. That an adequate appropriation be made for the printing of the new Constitution. Mrs. Sargent moved that this recommendation be referred to the House of Delegates for favorable action. Seconded by Mrs. Barrow, and carried.

2. That a book for the "In Memoriam" record be purchased. Mrs. Belt moved that this recommendation be referred to the House of Delegates for favorable action. Seconded by Mrs. Newman, and carried.

3. That the appropriation on the budget for the court reporter be eliminated. Mrs. Barrow moved that this recommendation be referred to the House of Delegates for favorable action. Seconded by Mrs. Baxter, and carried.

4. That there be established the custom of a post-convention general meeting so that the membership may meet their new president and that she in turn may present to them her plans and policies for the coming year. This procedure used by the National Auxiliary has proved most helpful in starting off well the year's work. After a discussion, Mrs. Doane withdrew this recommendation.

Recommendation of the Editor.—That the State Auxiliary now assume the full financial responsibility for postage, as well as printing of the *Courier*. During the first year the postage has been met by each county for its own membership. Since the first two issues have met the approval of the advertisers, the editor believes the cost of advertising space can be increased to cover all expenses. Mrs. Belt moved that this recommendation be referred to the House of Delegates for favorable action. Seconded by Mrs. Clark, and carried.

It was moved by Mrs. Barrow and seconded by Mrs. Clark that the recommendations of the Public Relations and Hygeia chairmen, herewith attached, be incorporated into a report of a future issue of CALIFORNIA AND WESTERN MEDICINE.

Mrs. Henderson moved that the incoming recording secretary be authorized to purchase a filing cabinet for the membership list, equipped with cards such as are used by the National Auxiliary. Seconded by Mrs. Scatena and carried. . . .

It was moved by Mrs. Sargent and seconded by Mrs. Clark that any additional expense incurred for the convention be taken out of the registration fees. Motion carried.

The minutes of this meeting were read and approved.

There being no further business the meeting adjourned.

MRS. H. E. HENDERSON,
Recording Secretary.

Minutes of the Sixth Annual Session of the Woman's Auxiliary

The first meeting of the sixth annual session of the Woman's Auxiliary to the California Medical Association convened at 9:45 a. m. in the Ahwahnee Hotel, Yosemite National Park, Tuesday, May 14, 1935, Mrs. Philip Schuyler Doane, president, presiding.

The Invocation was offered by Rev. James A. White, Yosemite.

The address of welcome was given by Mrs. C. Kelly Canelo of Santa Clara County, and responded to by Mrs. Elmer Belt of Los Angeles County.

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* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

Mrs. James F. Percy gave a brief and beautifully appropriate service in memory of those members who have passed away during the past year.*

Mrs. John V. Barrow, on behalf of the Pasadena members of Los Angeles County, presented a redwood gavel, ornamented with gold, and dedicated to Mrs. Doane.

Mrs. Frederick N. Scatena, convention chairman, reported briefly.

The report of the Credentials chairman, Mrs. H. Waldo Spiers, showed 42 delegates registered, 18 alternates, 5 guests, 12 Board members, 171 Auxiliary members, 12 guests from unorganized counties, making a total of 188.

The recording secretary called the roll of the State Board members and of the delegates by counties. . . .

The following rules, read by Mrs. Hervey S. Faris, chairman of Convention Rules, were approved:

1. All visitors are welcome to the general sessions.
2. No newspaper reporters are to be admitted to sessions.
3. Voting is limited to delegates and alternates.
4. Debate is open to delegates, alternates, State Board members, and members-at-large.
5. Debate is limited to three minutes.
6. To obtain the floor, please give your full name and name of your county.

Mrs. William H. Sargent, first vice-president, took the chair, while the president read her report, recounting the splendid work accomplished during the year, and expressing her deep appreciation of the work of her colleagues.

Mrs. Thomas J. Clark of Alameda County offered a tribute to Mrs. Doane, calling for a rising vote of thanks, which showed unanimous acceptance of her report.

The president announced that Mrs. William H. Sargent had been appointed parliamentarian, due to the inability of Mrs. Gundrum to serve in that capacity.

The president announced that the Committee on Resolutions is to be composed of Mrs. Emil C. Black (chairman), Mrs. Ruggles A. Cushman, and Mrs. Charles A. Dukes. . . .

She then announced that nominations were in order for the election of three members of the Nominating Committee from the floor. . . .

Mrs. A. A. Alexander of Alameda County nominated Mrs. Harold Smithies of Alameda County. Mrs. James F. Percy nominated Mrs. Hervey S. Faris of Riverside County. Mrs. N. N. Brown nominated Mrs. W. H. Boyd of Los Angeles County.

The Chair declared nominations closed, and the above members were declared duly elected. Mrs. Belt announced that the Nominating Committee would meet in Room 423 at 3 p. m. Tuesday.

The report of the corresponding secretary was given by Mrs. H. Waldo Spiers.

The report of the treasurer was given by Mrs. Fred N. Scatena, showing a cash balance on May 5, 1935, of $506.38.

The president called for the auditor's report, which was presented by Mrs. Scatena. On motion of Mrs. James F. Percy of Los Angeles, seconded by Mrs. Robert Glen of Alameda County, the report was accepted and ordered filed.

A report was given by Mrs. William H. Sargent, chairman of the Committee on Membership and Organization, showing total membership to date of 1,189.

At the president's request, Mrs. William H. Sargent, first vice-president, took the chair.

The other standing committee reports were given as follows:

Program and Health Education, Mrs. Charles E. Howard, chairman.

Public Relations, Mrs. John V. Barrow, chairman.

Public Health Activities, Mrs. Robert T. Sutherland, chairman.

Editor and Publicity, Mrs. Elmer Belt, chairman.

Hygeia, Mrs. Frank S. Baxter, chairman.

Following Mrs. Belt's report, Mrs. A. A. Alexander of Alameda County rose to express the thanks of the organization for the *Courier*.

Mrs. Ruggles A. Cushman of Mendocino County moved the acceptance of these reports with thanks and appreciation of the splendid work of the committee chairman. Motion seconded by Mrs. E. M. Pallette of Los Angeles County, and carried.

Mrs. Thomas J. Clark, chairman of Finance, presented the tentative budget, totaling $760. Motion to accept the budget was made by Mrs. Harold Trimble of Alameda County, and seconded by Mrs. Dewey Powell of San Joaquin County. Carried.

The secretary read the recommendations from the State Board and of the editor made at the pre-convention meeting. (By vote all were approved.) . . .

Mrs. James F. Percy of Los Angeles County moved that $200 be appropriated for traveling expenses for the incoming president to the National convention at Atlantic City. The motion was seconded by Mrs. Elmer Belt of Los Angeles, and carried.

Mrs. John Philip Strickler, vice-president of the San Francisco County Medical Society, announced the intention to organize a Woman's Auxiliary in San Francisco, and promised that the organization would be perfected in the near future.

There being no further business, Mrs. Sargent adjourned the meeting.

Mrs. H. E. Henderson,
Recording Secretary.

* * *

The second meeting of the sixth annual session of the Woman's Auxiliary to the California Medical Association convened at 9:45 a. m. in the Ahwahnee Hotel, Yosemite National Park, Wednesday, May 15, 1935, Mrs. Philip Schuyler Doane, president, presiding.

Various reports were read and approved. . . .

Reports of county presidents were given as follows:

Alameda County—Mrs. Robert T. Sutherland, president.

Contra Costa County — Mrs. Manuel Fernandez, president.

Kern County—Mrs. N. N. Brown, president.

Los Angeles County—Mrs. John V. Barrow, president.

Orange County—Mrs. Harry Huffman, president.

Riverside County—Mrs. Hervey S. Faris, president.

Sacramento County—Mrs. Fred N. Scatena, president.

San Diego County—Mrs. Emil C. Black, president.

San Joaquin County—Mrs. C. A. Broaddus, delegate.

San Luis Obispo County—No report.

Santa Barbara County — Mrs. H. E. Henderson, recording secretary.

Santa Clara County—Mrs. C. Kelly Canelo, president.

Mrs. Ruggles A. Cushman reported orally for the women of Mendocino County.

It was moved by Mrs. Frank S. Baxter of Alameda County and seconded by Mrs. C. E. Futch of Los Angeles County that the above reports be accepted. Carried. . . .

The president asked the secretary to read Article XII, Section 1, of the Constitution, relating to the dues. Mrs. James F. Percy of Los Angeles moved that the dues for 1935-1936 remain the same as last year, namely, $1. Motion seconded by Mrs. A. A. Alexander of Alameda, and carried.

Mrs. Elmer Belt, editor, presented copies of the president's report to the county presidents.

The report of the Nominating Committee was read by Mrs. Elmer Belt, chairman, as follows:

President-elect, Mrs. Andrew J. Thornton of San Diego County.

First vice-president, Mrs. William H. Sargent of Alameda County.

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* This report was printed in the June issue.

Second vice-president, Mrs. John V. Barrow of Los Angeles County.

Recording secretary, Mrs. C. Kelly Canelo of Santa Clara County.

Treasurer, Mrs. Carl Bowen of Alameda County.

Councilors-at-Large, Mrs. Mark Albert Glaser of Los Angeles County, Mrs. Ray Carr Green of Orange County, Mrs. Frederick N. Scatena of Sacramento County, and Mrs. Arthur J. Annis of Los Angeles County.

Mrs. Harold Trimble of Alameda County moved that the nominations be closed. Motion seconded by Mrs. J. R. Henry of Alameda County, and carried.

By unanimous *viva voce* vote the nominees presented for the offices provided for in the constitution were elected and so declared by the president.

The president then announced that nominations were in order for district councilors for the following districts, the following being elected:

Third District—Mrs. Lewis Packard, Kern County.

Fifth District—Mrs. Stanley Kneeshaw, Santa Clara County.

Seventh District—Mrs. Harold Trimble, Alameda County.

Eighth District—Mrs. Fred N. Scatena, Sacramento.

Ninth District—There being no adequate representation, this vacancy will be filled by the Board of Directors.

Mrs. Doane then presented the president for 1935-1936, Mrs. Thomas J. Clark, who was enthusiastically acclaimed by the assembly. Mrs. Clark announced the post-convention Board meeting to be held in Room 423 at 3 p. m.

Mrs. Doane then introduced the other incoming officers, who were present. . . .

Mrs. Doane thanked the Auxiliary members for their help, and asked their support for Mrs. Clark. A round of applause was given Mrs. Doane for her fine work as presiding officer.

The meeting adjourned at 12:05 p. m., *sine die.*

Mrs. H. E. Henderson,
Recording Secretary.

* * *

REPORT OF RESOLUTIONS COMMITTEE

Whereas, The 1935 annual session of the Woman's Auxiliary to the California Medical Association, held in Yosemite Valley, is about to become another happy landmark; and

Whereas, Many persons and agencies, as well as a magnificent setting, have contributed to this highly enjoyable meeting; therefore, be it

Resolved, That the Woman's Auxiliary to the California Medical Association, in convention assembled, extend its sincere thanks and grateful appreciation,

1. To Mrs. Frederick N. Scatena, convention chairman, for her hard work and careful attention that have done so much for the success of the session and pleasure of the members and their friends;
2. To the Convention Bureau of Sacramento for their assistance and coöperation in contributing to the success of our very delightful musicale;
3. To the management and staff of the Ahwahnee for all their courtesies;
4. To Dr. James A. White, who asked God's blessing on our sessions;
5. To the Council of the California Medical Association for their support and coöperation throughout the year;
6. To Dr. W. W. Roblee and members of the Advisory Council of the California Medical Association for their coöperation and support throughout the year, and their sympathetic understanding of our problems as an Auxiliary;
7. To Dr. Clarence Toland, Dr. R. A. Peers, Dr. Frederick C. Warnshuis, and Dr. James S. McLester for inspiring messages;
8. To Dr. George H. Kress and Dr. Frederick C. Warnshuis for additional space and courtesies in publication of Auxiliary news in California and Western Medicine, and their help during the year;
9. To the press for its coöperation and able presentation of matters dealt with during the year;
10. To Mrs. Philip Schuyler Doane, our president, whose administrative genius we have much admired, because of her real leadership and gracious manner, and also for the gay and gallant spirit with which she carried on and overcame in spite of tremendous difficulties, and to other members of our State Board who have so ably carried their duties to a successful completion;
11. To the Pasadena members, who, through their chairman, Mrs. A. T. Newcomb, in gracious gesture honoring their beloved and greatly admired Mrs. Philip Schuyler Doane, state president 1934-1935, presented to the State Auxiliary a beautiful gavel of burl of California redwood, mounted with engraved band of California gold, as lasting and permanent token of their love and esteem for her; and be it further

Resolved, That copies of these resolutions be sent by the recording secretary of the convention to the above mentioned, to whom we are so deeply indebted.

Respectfully submitted,
Mrs. Emil C. Black, *Chairman;*
Mrs. Ruggles A. Cushman,
Mrs. Charles A. Dukes.

NEVADA STATE MEDICAL ASSOCIATION

E. E. HAMER, Carson City	President
R. O. SCHOFIELD, Boulder City	President-Elect
C. E. SECOR, Elko	First Vice-President
HARRY W. SAWYER, Fallon	Second Vice-President
HORACE J. BROWN, Reno	Secretary-Treasurer and Associate Editor for Nevada

WASHOE COUNTY

The Washoe County Medical Society convened for its regular monthly meeting at the State Building, Tuesday evening, June 11, Dr. M. A. Robinson, presiding.

A communication from the Utah State Medical Association of Salt Lake City, inviting members of the State and County Medical Societies to attend the goiter clinic in Salt Lake City on June 24 to 26, was read. Other communications and matters were disposed or by motion, in order to allow the speaker the full hour for his illustrated lecture. The speaker was Dr. Emile Holman, professor of surgery, Stanford University Hospital, San Francisco. The doctor's subject was, *The Present Status of Surgery in the Treatment of Pulmonic Tuberculosis, Bronchiectasis, and Neoplasm of the Lung.* The lecture was abundantly illustrated with lantern slides, as suited the requirements of the speaker.

The one important thing brought out by Doctor Holman was that, through modern diagnostic means, it is now found that cancer of the lung constitutes 10 per cent of all the cancers of the human body. Patients presenting themselves to physicians with or without previous localization of cancer elsewhere in the body, and having dullness on percussion, constant pain, and hemoptysis, should put the examining physician on his guard that the case might be one of cancer of the lung.

The illustrations of the lantern slides showed the various methods of approach in operations upon the lung and the technique of today as compared with that of a few years ago. In the positive event that all malignant neoplasms will eventually lead if unchecked to the ultimate death of the patient, modern technique in operation of neoplasm of the lung is sufficiently far advanced today to offer the patient a fair percentage of recovery if seen sufficiently early before the destructive metastasis has occurred.

Bronchiectasis is now supposed to be due to spirochetes, an inhabitant of the mouth, in the region of the teeth and gums, that follows a downward path of the bronchi, with distinct localizations. The arsenicals have proved of some value in the treatment of this condition. The inference of this is that dental hygiene should be more strictly enforced in the growing child and the young adult. The trend of the lecture was that we should, in order to secure the best aids in diagnosis, x-ray and re-x-ray a patient, and if we suspect cancer, rule out tuberculosis by microscopic or tuberculin tests. Doctor Holman's lecture was greatly appreciated by those who were privileged to attend.

Thomas W. Bath, *Secretary.*

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

American College of Surgeons, Fairmont Hotel, San Francisco, October 28 to November 1, 1935. Howard C. Naffziger, M. D., 384 Post Street, San Francisco. Chairman.

California Medical Association, Coronado, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco, Secretary.

Nevada State Medical Association, Elko, Nevada, October 25-26, 1935. Horace J. Brown, P. O. Box 698, Reno, Secretary.

North Pacific Pediatric Society, Seattle, August 9-10, 1935. F. H. Douglass, M. D., 509 Olive Street, Seattle, Secretary.

Pacific Association of Railway Surgeons, Coronado, August 23-24, 1935. W. T. Cummins, M. D., Southern Pacific General Hospital, San Francisco, Secretary.

Pacific Coast Society of Obstetrics and Gynecology, Los Angeles, November 6-9, 1935. T. Floyd Bell, M. D., 400 Twenty-ninth Street, Oakland, Secretary.

Medical Broadcasts*

San Francisco County Medical Society. — The radio broadcast program for the San Francisco County Medical Society for the month of August is as follows:

Thursday, August 1—KFRC, 1 p. m. Subject: The Bony System of the Child.
Tuesday, August 6—KJBS, 11:15 a. m. Subject: Communicable Diseases Among School Children.
Thursday, August 8—KFRC, 1 p. m. Subject: Communicable Diseases Among School Children.
Tuesday, August 13—KJBS, 11:15 a. m. Subject: Diphtheria.
Thursday, August 15—KFRC, 1 p. m. Subject: Diphtheria.
Tuesday, August 20—KJBS, 11:15 a. m. Subject: Diphtheria a Preventable Disease.
Thursday, August 22—KFRC, 1 p. m. Subject: Diphtheria a Preventable Disease.
Tuesday, August 27—KJBS, 11:15 a. m. Subject: Rheumatic Infections in Childhood.
Thursday, August 29—KFRC, 1 p. m. Subject: Rheumatic Infections in Childhood.

* * *

Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of August is as follows:

Saturday, August 3—KFI, 9 a. m. Subject: Oddities.
Saturday, August 3—KFAC, 10:15, a. m. Subject: Oddities.
Tuesday, August 6—KECA, 11:15 a. m. Subject: Oddities.
Saturday, August 10—KFI, 9 a. m. Subject: Oddities.
Saturday, August 10—KFAC, 10:15 a. m. Subject: Oddities.
Tuesday, August 13—KECA, 11:15 a. m. Subject: Oddities.
Saturday, August 17—KFI, 9 a. m. Subject: Oddities.
Saturday, August 17—KFAC, 10:15 a. m. Subject: Oddities.
Tuesday, August 20—KECA, 11:15 a. m. Subject: Oddities.
Saturday, August 24—KFI, 9 a. m. Subject: Oddities.
Saturday, August 24—KFAC, 10:15 a. m. Subject: Oddities.
Tuesday, August 27—KECA, 11:15 a. m. Subject: Oddities.
Saturday, August 31—KFI, 9 a. m. Subject: Oddities.
Saturday, August 31—KFAC, 10:15 a. m. Subject: Oddities.

Pacific Association of Railway Surgeons.—The 1935 annual session will convene at Coronado August 23-24. Members of the medical profession are invited to attend the meetings. Information concerning hotel rates and program may be secured from the secretary, Dr. W. T. Cummins, Southern Pacific General Hospital, San Francisco.

American Medical Association Section Chairmanships to Doctors William J. Kerr and Chauncey D. Leake.—Distinguished honors have been conferred on two faculty members of the University of California Medical School by the American Medical Association. Dr. William J. Kerr, professor of medicine, has been named chairman of the Section on General Medicine, while Dr. C. D. Leake, professor of pharmacology, assumes the chairmanship of the Section on Pharmacy and Therapeutics. In these positions the two University doctors will have much to do in arranging the program for the meeting of the Association in Kansas City next year.

The Section on Medicine is considered the leading section of the Association, and Doctor Kerr's election as chairman follows his services for several years as secretary of the section. Doctor Leake served during the past year as vice-chairman of his section in charge of the scientific exhibit.

Pasadena Wins First Place in Public Health Contest.—The Pasadena *Star-News* of July 20, 1935, printed an article from which excerpts below are taken:

"Pasadena's winning first place in its class in the recent interchamber health contest sponsored by the United States Chamber of Commerce and the American Public Health Association stamped this city as one of the leaders in public health activities, according to Dr. Reginald M. Atwater, executive secretary of the American Public Health Association, who was a visitor in Pasadena recently. . . .

"'Pasadena deserves a great amount of credit for its fine showing in the 1934 health contest,' Doctor Atwater stated. 'To secure 902 out of a possible 1,000 points is an unusual achievement. Two hundred and fourteen cities were entered in the contest.'

"'Very few cities in a health contest achieve a perfect score in such important matters as water supply and the disposal of wastes and in thirty-five individual activities of health work as Pasadena did,' said Doctor Atwater.

"'I am impressed with the fact that in a community so outstanding as Pasadena that only 45 per cent of the milk supply is pasteurized. The situation is somewhat improved, however, by the fact that bacteria counts have been low, indicating a clean handling of milk.' . . .

"'It is encouraging to note that parents of young children in Pasadena appreciate the value of toxoid as a means of preventing diphtheria, although the disease has been low in Pasadena. It is the only dependable protection in immunizing infants after they reach the age of six months. Many millions of treatments show how safe the method is, and I commend Doctor Halverson's plan to make immunization increasingly available to children in Pasadena.'"

"Doctor Atwater was particularly pleased with Pasadena's unusually low infant mortality rate, 29.18 per one thousand live births in 1934. . . .

"Doctor Atwater said that during the current month interest has centered on the passage by Congress of the social securities bill, which includes provisions for financing public health activities more adequately than heretofore, due to a shortage in qualified personnel, with graduate training for public health work and with the proper experience.

"Efforts are being made to offer courses of training to develop a personnel that can fill the new positions to be created under the federal bill, states Doctor Atwater. The new bill subsidizes public health work to the extent of $20,000,000."

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* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to California and Western Medicine, 450 Sutter Street, San Francisco, for inclusion in this column.

"Painless Parker and Doctor Fishbein Bury Hatchet and Lawsuit Quashed."—Under the above caption, a news item, probably inspired but not without an element of the ridiculous, was printed in the San Francisco *Chronicle* of July 12, 1935. It reads:

"Dr. Painless Parker, militant advertising dentist, and Dr. Morris Fishbein, equally militant figure in the American Medical Association as an anti-advertiser, have buried the hatchet. And so Doctor Parker yesterday dismissed his $100,000 slander suit against Doctor Fishbein in the federal courts.

"In effect, they have shaken hands and have agreed to go their separate ways, 'doing all they can for the good of the profession,' to use the words of Alfred S. Humphreys, Doctor Parker's lawyer.

"The dentist demanded the $100,000 of the doctor, charging he was called a 'charlatan and a quack' in a Fishbein speech before the Oakland Forum and the California Dental Association on April 9. Doctor Fishbein denied the 'charlatan and quack' accusation."

Postgraduate Medical Courses for Practicing Physicians.—The Stanford University School of Medicine announces a series of postgraduate medical courses to be given in coöperation with the San Francisco Department of Public Health and the San Francisco Hospital. The courses will be given September 10-13, 1935, inclusive. Registration closes September 3. There will be a registration fee of $20. Each student may take a morning and an afternoon course and all students should attend the evening general meetings. No course will be given for less than four students.

Applications for registration in these courses should be mailed to the dean, Stanford Unversity School of Medicine, 2398 Sacramento Street, San Francisco, not later than September 3.

* * *

MORNING COURSES

Course I—Cardiology. Tuesday, Wednesday, Thursday, and Friday, 8:30 to 12:00. Courses by Drs. William Dock, Jay Marion Read, George Barnett, William Newman, and J. K. Lewis.

Course II—Diseases of the Chest. Tuesday, Wednesday, Thursday, and Friday, 8:30 to 12:00. Course by Drs. Philip Pierson, William G. Burkhard, Martin Seid, Robert R. Newell, David A. Wood, Leo Eloesser, and Emile Holman.

Course III — Obstetrics and Gynecology. Tuesday, Wednesday, Thursday, and Friday, 8:30 to 12:00. Course by Drs. L. A. Emge, H. A. Stephenson, Karl Schaupp, and A. V. Pettit.

AFTERNOON COURSES

Course IV—Medical Aspects of Syphilis and Its Treatment. Tuesday, Wednesday, Thursday, and Friday, 1:30 to 5:00. Courses by Drs. Charles Barnett, Harold K. Faber, and George S. Johnson.

Course V—Proctology. Tuesday, Wednesday, Thursday, and Friday, 2:00 to 5:00. Course by Dr. Robert Scarborough and others.

Course VI—Surgical Anatomy, with Special Reference to Operative Approach and Technique. Tuesday, Wednesday, and Friday, 1:30 to 5:00. Course by Drs. D. E. King and G. W. Nagel. An additional fee of $10 will be made to cover the cost of materials used in this course.

Course VII — Ophthalmology. (For ophthalmologists only.) General practitioners are not eligible for this course. Tuesday, Wednesday, Thursday, and Friday mornings, 9:00 to 12:00. Afternoons, 1:30 to 3:30. Course given by Drs. Hans Barkan, Robert Irvine, Dohrmann Pischel, Avery Hicks, and W. E. Borley.

* * *

GENERAL MEETINGS

Lane Hall—8:00–10:00 p.m.

Meeting I—Nephritis and Hypertension. Drs. Thomas Addis, William Dock, and David Rytand. Tuesday evening.

Meeting II—Glandular Diseases and Their Treatment. Drs. Frederick L. Reichert, C. F. Fluhmann, and L. A. Emge. Wednesday evening.

Meeting III—Gastro-Intestinal Disease. Drs. A. L. Bloomfield and W. W. Boardman. Thursday evening.

Chiropractic College Sues State Board.—As should be well understood by this time, the California chiropractic law, which was enacted by vote of the people, has been found to be so "frozen" that defects have made for succeeding suits in the courts. The following press dispatch is of interest:

"Charging its graduates were denied the right of examination contrary to law and 'malicious and unfounded' statements were issued against it, the State College of Chiropractic and Naturopathic Physicians of San Jose yesterday filed an action against the State Board of Chiropractic Examiners, seeking $50,000 and $50,000 punitive damages.

Cites Webb Ruling

"Dr. M. James McGranaghan, attorney for the plaintiff, alleges the defendants denied the right of examination for license to graduates of the college on the ground they had not been conferred with the degree of Doctor of Chiropractory by the college.

"The plaintiff holds it is not necessary under State law, and cites a decision handed down July 6 by Attorney-General Webb, in which he stated graduates did not necessarily need a degree to take the examinations.

Charges Broadcast

"He further alleges board members broadcast over the radio and publicized their refusal and otherwise gave intimation future graduates would be refused examinations.

"In the punitive action the plaintiff alleges C. R. Willett, C. O. Hunt, R. C. Foy, C. E. Walker and M. H. Disney, members of the board, with 'acting in refusal with improper and sinister motives for the purpose of embarrassing the plaintiff in the conduct of its college.'"

Examination for Medical Director of Olive View Sanatorium.—The Civil Service Commission of Los Angeles has made the following announcement:

"Appointment of ten prominent physicians, representing a complete cross-section of the medical profession of Los Angeles County, to examine applicants for the important position of medical director at Olive View Sanatorium, 1,500-bed tuberculosis institution of the County Department of Charities, was announced by Clifford N. Amsden, secretary of the County Civil Service Commission.

"The examination, which has attracted tuberculosis specialists from the entire country, will be given orally by the examining board of ten, and is to require two full days, July 29 and 30. The appointee will succeed the late Dr. W. H. Bucher.

"The examining board will consist of: Dr. E. M. Pallette, vice-president of the State Board of Health; Dr. Harry Wilson, president of the Los Angeles County Medical Association; Dr. Francis M. Pottenger, head of Pottenger Sanatorium and president of the Trudeau Society, which is the tuberculosis section of the county medical association; Dr. Donald Fricke, president of the Los Angeles Tuberculosis and Health Association, who is adviser to private agencies; Dr. Mumford Smith, medical director of Barlow Sanatorium; Dr. George Kress, member of the State Board of Health; Dr. Paul S. McKibben, dean of the University of Southern California Medical School; Dr. Percy Magan, president of the College of Medical Evangelists; Dr. Carl Howson, chief of the tuberculosis staff at Los Angeles County Hospital; and Dr. Phoebus Berman, medical director of Los Angeles County Hospital.

"I have studied the names of the examiners and am convinced that the Civil Service Commission deserves particular credit for the splendid selections made," Rex Thomson, Charity Superintendent, said.

"In making this appointment at Olive View, therefore, I shall be gratified to know that the applicants have been graded on the basis of examination by such outstanding doctors as have been chosen.

"Eleven applicants for the position will take the examination."

"Utah State Medical Bulletin."—Vol. 1, No. 3, of the *Utah State Medical Bulletin,* a sixteen-page publication, has recently been received. The editorial committee consists of Doctors J. U. Giesy, L. E. Viko, and Richard Middleton, with offices at 701 Medical Arts Building, Salt Lake City. This year's annual session of the Association is scheduled to be held at Logan, Utah, September 5, 6, and 7. The *Bulletin* contains reports of component county societies and committees and should be of real value in sustaining interest in organized medicine in Utah.

Smallpox and Diphtheria.—A determined effort to stamp out smallpox and diphtheria in California through the inoculation of school and other children, has been undertaken by a number of coördinating health agencies, of which the University of California Medical School is one. In San Francisco it is hoped to inoculate all school children not yet immune at the opening of the fall term. In addition, both the University and the San Francisco County Medical Society are asking all physicians to immunize as many infants as possible.

The comparative ease with which these two diseases may be prevented has reduced smallpox and diphtheria to the state of unnecessary evils which may be eliminated if the coöperation of parents and physicians can be obtained. California has had a fairly good record in some of its urban population, but to be maintained there can be no laxity allowed. Every year brings new babies who must be protected. Episodes which point to carelessness or lack of coöperation on the part of patients, are still too frequent.

The Division of Children's Diseases at the University of California points out that California port cities face the Orient and the development of more efficient transportation creates a greater hazard with regard to smallpox, which is endemic in China. It is also to be noted that some of the federal projects of reforestation and reclamation work create unusual circumstances for the children of those families. One instance in northern California revealed a community with two hundred children exposed and not protected against diphtheria.

Smallpox in Early Days of California.—In the San Francisco *Call-Bulletin* of July 10, 1935, appeared the following editorial from the late Fremont Older:

> Edward Jenner, an English physician, is given the credit of having originally devised the protective inoculation against smallpox.
>
> In 1770, while Jenner was an apprentice to a medical man at Sodbury, near Bristol, he noticed that persons who, in the course of their employment on dairy farms, happened to contract cowpox were thereby protected from a subsequent attack of smallpox.
>
> Jenner's interest was aroused by a casual remark by a young country woman who happened to come to the surgery for advice. When she heard smallpox mentioned her interest was aroused and she immediately volunteered the statement that she could not take the disease, as she had had cowpox. During that same year Jenner came to London to finish his medical education. As a pupil of John Hunter he became obsessed with the vaccination idea and discussed it with Hunter.
>
> On his return to his native village in 1773 he made a further study of the subject and in 1776 he began making experiments. He inoculated a boy of eight years of age, named James Phipps, with cowpox matter which he had taken from the sore in the hand of a young woman who had become infected with the disease by milking cows suffering from cowpox.
>
> This was the beginning of vaccination and it spread rapidly. But it was not until 1798 that Jenner made an attempt to carry on a strain of lymph from arm to arm. Jenner's discovery spread like a prairie fire, not only throughout England and Europe where people were dying by thousands, but to America as well.
>
> Mrs. Sanchez, in her "Spanish Arcadia," tells of vaccination having penetrated the Wild West as early as 1828. In that year a dreadful smallpox epidemic spread over the pueblo of Los Angeles, which was on the route of overland travel. The disease was so terrifying that a board of health was organized and issued a set of rules which were to be observed by the people while the epidemic lasted. The horrors of the disease were painted in vivid colors to frighten the people into obeying the rules.
>
> All travelers on inland roads were quarantined four leagues from town for three days, during which time they were required to wash their clothing. Someone introduced vaccine, and its good results caused vaccination to be enforced. The friars were instructed to allay as much as possible the unfounded prejudice against it.
>
> At about this time a picturesque character showed up, James Ohio Pattie, a young trapper and trader from Kentucky. He made a vaccinating tour of California. Charged with having entered the country unlawfully, he was thrown into jail in San Diego. In exchange for his liberty he offered to vaccinate everyone in California. The epidemic was then at its height.
>
> The offer was accepted and Pattie vaccinated all the way to Fort Ross. He reported to the authorities that he treated twenty-two thousand persons. For this great service he received his liberty, $100 in cash from the Russians at Fort Ross, and the offer of five hundred cattle and five hundred mules with land to pasture them on from the Spaniards, but on the condition that he become a Mexican citizen.
>
> Pattie refused the offer, made his escape on horseback to Monterey and shipped on an adventurous career.

CORRESPONDENCE

Concerning the need of isolation buildings for the treatment of poliomyelitis patients.*

Copy

THE LOS ANGELES COUNTY GENERAL HOSPITAL
LOS ANGELES, CALIFORNIA

July 19, 1935.

Mr. William Davidson,
Mechanical Engineer, County of Los Angeles,
Los Angeles, California.

Re: Isolation Building, Los Angeles County General Hospital

Dear Sir:

I am informed by Mr. Alfred Jones, County Surveyor, that the list of projects proposed to be carried out at the Los Angeles County General Hospital as a part of the county's program of participation in Federal Emergency Public Works allotments was turned over to you some time ago for the completion of certain forms required by the Federal Emergency Administration of Public Works. Mr. Jones' letter further explains that your department will act as a clearing house in this program for all county building projects and that we should refer to you for further progress information.

Pursuant to this advice, I am writing to inquire as to the present status of the projects submitted by the General Hospital and particularly as regards the prospects of early action on one of those projects entitled the Isolation (or Smallpox) Building. I am attaching hereto copy of a resolution promulgated by the California State Board of Public Health, which has a direct bearing on this project. In view of the existence of poliomyelitis in the county at the present time, the need for the isolation building is extremely urgent, and I should recommend that it be given preferred consideration. The preparation of plans and specifications is a necessary preliminary step which might be taken immediately.

Your usual prompt and energetic coöperation in this matter will be greatly appreciated.

Yours very truly,
NORMAN R. MARTIN,
Executive Superintendent.

* * *

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH
SACRAMENTO

Resolved, By the California State Board of Public Health at its meeting on July 13, 1935, that in the light of present knowledge concerning poliomyelitis in California, it is desirable, from the standpoint of prevention of the disease, that the following rules of guidance be observed in California:

1. That poliomyelitis patients should not be treated in the regular wards of a general hospital, and that the constituted authorities of such general hospitals be so notified, isolation buildings being recommended.
2. That, wherever possible, the nursing personnel used in the care of poliomyelitis patients be composed of nurses who are at least thirty-five years of age.

(Signed) J. D. DUNSHEE, M.D.
Director, State Department of Public Health.

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* See also editorial comments on page 108.

Regarding a pseudo-salesman.

To the Editor:—I have uncovered another racket, which, I believe, through the agency of CALIFORNIA AND WESTERN MEDICINE, can be met.

A man, about three weeks ago, representing himself as manager of this district, in opening up accounts to develop this territory for the "Mastercraft Tailoring Company, Inc.," Durham, North Carolina, solicited me for an order for a suit of clothes. On writing the company I have had my letter returned unclaimed. His scheme is to use an order blank of the company collecting 25 per cent, the balance C. O. D. with order.

I have an idea that this man may still be working in the county, and I would suggest your placing the information in the next issue of CALIFORNIA AND WESTERN MEDICINE, under a prominent "Warning."

This man is about medium height, light complexion, with a harsh rasping voice, going by the name of H. B. May, although he may have other aliases.

I would suggest that any of our membership encountering this man in their offices would report the matter to the police, to pick him up for investigation.

Very truly yours,

CLEON W. SYMONDS, M. D.

July 9, 1935.

Regarding mental patients. A legal opinion by General Counsel Peart.

Subject: Senate Bill No. 534

C. W. Mack, M.D.,
Livermore, California.

Dear Doctor:

Doctor Warnshuis has referred to me your inquiry addressed to him, dated June 14, 1935, concerning the constitutionality of Senate Bill No. 534 should it become law. We have carefully examined the copy of the bill, which you so kindly enclosed, and after an examination of authorities, have reached the following conclusions: It would seem that Senate Bill No. 534 does no more than restate existing principles of constitutional law. Should the bill not be signed by the Governor, the subject-matter with which it deals would continue to be the law of the land, pursuant to the constitutions of the United States and the State of California and judicial decisions thereunder.

As we understand Senate Bill No. 534, it provides first, that no person purportedly mentally deranged may be involuntarily taken to a private sanitarium without a written statement from at least one physician without financial interest in the patient's care; second, that no person mentally ill, residing in a private sanitarium, may be prevented from communicating with friends, relatives and others, except that if in the judgment of the physician in charge it is apparent that the patient is unable to express coherent thoughts, the officials of the sanitarium may prevent outside communication, but must thereafer notify the District Attorney of the county from which the patient came and the District Attorney of the county in which the sanitarium is located; and third, that no court proceedings relative to the mental condition of a patient in a private sanitarium may be had unless the patient is present in person or represented by an attorney. There is also a provision for expert medical examination by court commissioners, which is consistent with the present provisions of the Political Code concerning commitment of insane persons to State institutions.

An analysis of the provisions of the bill, bearing in mind the foregoing outline, leads one to the conclusion that it attempts to prevent involuntary detention without judicial commitment of persons mentally ill unless certain safeguards are complied with. From a legal viewpoint, the detention in a private institution of any individual without the freely given consent of that individual or without a judical declaration by a court of competent jurisdiction providing for such detention, would seem to constitute false imprisonment. Falsely imprisoning a person is a criminal offense (Penal Code, Sections 236-237) and a civil wrong. The person imprisoned may redress the civil wrong in an action for damages.

Furthermore, any act of the legislature purporting to authorize the detention in private institutions of persons mentally ill without any judicial procedure whatever, and without the consent of such persons, would probably be unconstitutional under both the constitutions of the United States (Amendment XIV) and the State of California (Article I, Section 1, and In re Lambert, 134 Cal. 626). Consequently, the legislature in Senate Bill No. 534 is merely regulating this subject in the only manner in which it has constitutional authority, and is only restating that which is already law.

With respect to the third requirement of the bill, namely, that the person whose mental condition is in issue at a court proceeding must be personally present or represented by an attorney, it would seem that this matter is analogous to the question before the Supreme Court of the United States in the famous Scottsboro case, which has received so much newspaper publicity in the past few years. The Supreme Court there held that any proceeding in a state court in which a person's liberty was at stake, the Constitution of the United States required that such person be furnished with an attorney at law.

Of course, it must be remembered that in rendering an opinion on the constitutionality of the bill in which you are interested, matters pertaining to the wisdom or lack of wisdom of the legislature in enacting it are not before me. I must confine myself to the questions of law involved and not undertake to pass judgment upon any of the policies involved.

I am taking the liberty of retaining the copy of Senate Bill No. 534, which you enclosed in your letter to Doctor Warnshuis. If you are caused any inconvenience thereby, I shall return it promptly.

Very truly yours,

June 27, 1935. HARTLEY F. PEART.

Regarding amendments to California Medical Practice Act.

To the Secretary:—In answer to your request of July 1, we submit the following information relative to recent legislative enactments involving changes in the Medical Practice Act.

Senate Bill No. 154, amending Section 14 of the Medical Practice Act, adding causes for issuance of citation and requiring deposit of bond by those appealing from judgment of the Board, was passed and is now before the Governor.

Senate Bill No. 155, amending Section 10 of the Medical Practice Act, re foreign graduates, sent to the Governor June 15, 1935.

Senate Bill No. 468, adding Section 18a, providing for issuance of injunctions to restrain persistent law violators, sent to the Governor June 15, 1935.

Senate Bill No. 820, amending Sections 2 and 13. Amendment to Section 2 returns the annual registration fee of the Board of Medical Examiners to $2. This is the only change that concerns the Board of Medical Examiners. It also increases registration fee payable to the Board of Osteopathic Examiners and increases the penalty for failure to pay same. The amendment to Section 13 does not in any way change the provisions relating to the administration features of the Board of Medical Examiners, excepting that in lieu of the present one-year residence requirement of reciprocity applicants, the applicant may show two years of legal practice in some other state or states. The bill was sent to the Governor June 14, 1935.

Assembly Bill No. 2305, adding Section 9-a to the Medical Practice Act re chiropody, sent to the Governor June 15, 1935.

Assembly Bill No. 1765, while it does not amend the Medical Practice Act, was urgently supported by the Board of Medical Examiners. It amends the corporation law in an endeavor to stop fly-by-night professional schools from issuing "degrees, diplomas or certificates." Sent to the Governor June 15, 1935.

The *Bulletin*, listing all bills passed by the legislature and either signed or vetoed by the Governor during the period January 7 to June 23, 1935, does not show that any of the above-mentioned bills were signed during said period; however, we anticipate their approval by His Excellency.

Trusting this is the information you seek, and if not that you will write us further, believe me

Very cordially yours,
Charles B. Pinkham, M. D.,
Secretary-Treasurer, Board of Medical Examiners.

July 2, 1935.

A. M. A. AND THE HEALTH INSURANCE PRINCIPLE

Below is printed the opening editorial of the July issue of the *Western Hospital Review*, official publication of the Association of Western Hospitals. The editorial was printed in a full-page, two-column display spread, and in line with other quoted articles printed on page 103 of the July issue of California and Western Medicine, makes interesting reading:

Assembly Bill 246 Becomes a Law

On July 12 the Governor of California signed Assembly Bill 246, an enabling act to permit hospitals to organize and operate nonprofit hospital insurance associations under the jurisdiction and supervision of the Insurance Commissioner.

The proverbial snowball starting down the hillside and ending in an avalanche has its parallel in the rapid development of the idea of applying the principle of insurance to the payment of hospital bills.

To be sure, the idea is not new. Fraternal organizations and certain industries have operated health insurance plans for their members for many years. It is less than five years, however, since Baylor University Hospital in Dallas, Texas, reported to the American Hospital Association convention in Toronto that it was successfully operating a monthly payment hospital insurance plan for employed groups. At last report more than one hundred plans were in operation throughout the United States, and several state legislatures have enacted laws governing the operation of hospital service organizations.

The battlefront of the progressives and reactionaries in medicine is sagging a bit here and there, but in the main has not moved any appreciable distance in so far as any change in the manner of purchasing medical service is concerned. Even the doctor agrees, however, that there can be no valid objection to the patient purchasing hospital care on the budget plan if it interferes in no way with his relationship with the doctor.

California has been much in the limelight during the past months because of many radical proposals emanating from the State, and has been the cause of much caustic comment and barbed criticism from the eastern and midwestern sections of the country. Its State Medical Association shocked and grieved the parent organization, the American Medical Association, by proposing a plan to the legislature whereby the average man could budget for illness. Editorial writers and uninitiated laymen have rudely questioned the motive back of this bill, even going so far as to suggest that it was presented purposely to defeat the avowed intent of providing a plan of compulsory health insurance.

Why not be fair? The California Medical Association, by coming out into the open and accepting the challenge to do something, did more to clarify and expose the dangers of government control of all medical service than anything the American Medical Association has ever done with its "thou shalt nots." One may rest assured, moreover, that if and when any radical change is made in the manner in which medical care is purchased in California, the doctors of the State will have something to say about it.

A. B. 246—NONPROFIT HOSPITAL SERVICE BILL

CHAPTER 386

An act for the regulation and control of corporations organized for the purpose of operating nonprofit hospital service plans.

[Approved by the Governor July 5, A. D. 1935.]

The people of the State of California do enact as follows:

Section 1. This act shall govern any nonprofit corporation heretofore or hereafter organized under the laws of the State of California which by its original or by any amended articles is authorized to establish, maintain and operate a nonprofit hospital service plan whereby hospital care may be provided by said corporation to such of the public who become subscribers to said plan under a contract which entitles each subscriber to certain hospital care as provided in said contract, or whereby said hospital care may be provided by any hospital or hospitals with which said nonprofit corporation has or shall have a contract to furnish such hospital care to said subscribers provided that no such corporation operating under the provision of this act shall enter into any such contact with any hospital wholly or partly supported by taxation, except where such a hospital is the only hospital in the county where it is located, or is a hospital maintained and operated by or in connection with a State college or university of the State of California in conjunction with and as a part of its educational and administrative program; and provided further that no corporation authorized by the provisions of this act to establish, maintain and operate a non-profit hospital service plan may itself furnish hospital care to its subscribers or do any of the acts herein authorized, unless and until it shall have first procured a certificate from the State Department of Public Health certifying that it is complying with the standards required by said State Department of Public Health, nor shall any such corporation enter into any contract with any hospital for the furnishing of hospital care to its subscribers unless the hospital with which it contracts has procured such a certificate from the State Department of Public Health.

Sec. 1a. "Hospital care" as used in this act may include any or all of the following services: maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep.

Sec. 2. This act shall not apply to nor govern any corporation operating a hospital service plan on a profit basis, or which, though operating such a plan on a nonprofit basis, shall be organized for or shall conduct any business whatsoever on a profit basis, nor shall it apply to or govern any corporation formed and existing under the Constitution of 1849 pursuant to the act entitled "An act concerning corporations," passed April 22, 1850.

Sec. 3. Any nonprofit corporation organized to operate a nonprofit hospital service plan in the manner and in accordance with the provisions of this act shall be exempt from all other provisions of the insurance laws of this State, unless otherwise specifically designated herein, not only in governmental relations with the State but for every other purpose, and no law hereafter enacted shall apply to such a corporation unless it be expressly designated therein.

Sec. 4. At least two-thirds of the directors of such a corporation which shall furnish hospital care through contracts with hospitals as provided in Section 1 hereof shall be composed equally of duly appointed representatives of such hospitals and duly qualified and licensed practicing physicians holding a valid and unrevoked certificate to practice medicine and surgery or a physician and surgeon certificate, issued under the provisions of the State Medical Practice Act in the State of California. Such a corporation which shall itself furnish such hospital care shall choose its board of directors from such persons as it shall see fit.

Sec. 5. No corporation shall establish, maintain or operate a non-profit hospital service plan as authorized by the provisions of this act unless it shall have first procured the written consent of the Commissioner of Insurance of this State to such establishment, maintenance and operation.

Sec. 6. The rates charged by such corporation to the subscribers for hospital care shall at all times be subject to the approval of the Commissioner of Insurance of the State of California, and all rates of payments to hospitals made by such corporation pursuant to the contracts provided for in Section 1 of this act shall be approved prior to payment by said Commissioner of Insurance.

Sec. 7. Every such corporation shall annually on or before the first day of March file in the office of the Commissioner of Insurance of this State a statement verified by at least two of the principal officers of said corporation showing its condition on the thirty-first day of December then next preceding, which shall be in such form and shall contain such matters as the Commissioner of Insurance shall prescribe.

Sec. 8. The Commissioner of Insurance, or any deputy or examiner or any other person whom he shall appoint, shall have the power of visitation and examination into the affairs of any such corporation and free access to all the books, papers, and documents that relate to the business of the corporation, and may summon and qualify witnesses under oath and may examine the officers, agents or employees of such corporation or any other persons in relation to the affairs, transactions and condition of said corporation.

Sec. 9. All acquisition costs in connection with the solicitation of subscribers to such hospital service plan shall at all times be subject to the approval of the Commissioner of Insurance.

Sec. 10. The funds of any corporation subject to the provisions of this act shall be invested only in securities permitted by the law of this State for the investment of assets of life insurance companies and such securities shall be valued according to the methods used in valuing similar securities held by life insurance companies.

Sec. 11. Any dissolution or liquidation of a corporation subject to the provisions of this act shall be conducted under the supervision of the Commissioner of Insurance who shall have all powers with respect thereto granted to him under the provisions of law with respect to the dissolution and liquidation of insurance companies.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 8, August, 1910

From Some Editorial Notes:

The Value of Drugs.—Healing cults rise, one after another, some to attain vogue for a little space and to die, some to make a more enduring impression. That they arise, and that some of them endure, is testimony that they meet some need of modern life. Healing cults, proprietary remedies, patent medicines. . . .

There is no more curious fact to be noted in medicine than that during the very period of cult expansion and expansion of proprietary and patent remedies, the therapeutic nihilist has arisen and waxed mightily in the profession. He has gained so much influence that a large proportion of our younger men consider it quite the thing to disavow a belief in the efficacy of drugs. . . .

* * *

The Wassermann Test for Syphilis in Practice.—It is generally conceded that the discovery of Wassermann's test for syphilis denotes immense progress in our knowledge of that disease; but as experience accumulates, misgivings arise in regard to the extent to which we may trust the verdicts of the test in practice. . . .

It seems a well-warranted conclusion that the Wassermann reaction, if properly carried out, is of great service in practice. . . .

* * *

The St. Louis Meeting of the American Medical Association.—It may not be malapropos, even at this time, to express the hope that a suitable hall or auditorium shall be available when the American Medical Association meets next year in Los Angeles. Many of the men who have the best things to say do not show custom in speaking in public rooms of large size, and either speak too low even for those with sharp ears, or else address their remarks to the chairman alone. A proper lectern should be provided, situated at the best point for easy speaking to the audience, so that all may hear, and those who discuss the papers should be in the same or an equally well-situated place. It seems a pity, too, that telephone messages for members in the audience should have to be constantly announced on the stage, but if it *is* a positive necessity, it should be arranged for so that the announcement may be made with the least annoyance of those who are listening to the papers or discussions. . . .

* * *

Empiricism Versus Rationalism in Surgery.—The average man is sometimes a trifle disinclined to think for himself. He has a good memory and readily learns, parrot-like, the technique of operations. He thinks of operations by the names of the men who described them, rather than by the principles involved and their relative advantages and disadvantages, and proceeds to perform these operations as set *procedures*. . . .

Just as it is better and more rational in prescribing to compile a prescription to suit the case, based on the action of the individual drugs, than to rely on the mysterious healing effect of some worshiped prescription, so in surgery it is better to learn the principles and processes in the repair of tissues and the effects of different procedures on the physiology, pathology, and repair. . . .

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* This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

(Continued in Front Advertising Section, Page 14)

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA*

By Charles B. Pinkham, M.D.
Secretary-Treasurer

News Items

One hundred and forty-eight applicants wrote the examination at the regular meeting of the Board of Medical Examiners held in San Francisco, July 8 to 11, inclusive.

* * *

The Board made the following changes in the status of licentiates:

Robert V. Baker, M. D., revoked October 16, 1934, was restored July 8, 1935, and placed on probation for a period of five years, without narcotic privileges.

John V. Cocke, M. D., revoked July 10, 1935, based upon record of narcotic conviction.

George Wellington Frasier, M. D., charged with narcotic derelictions, was on July 9, 1935, placed on probation for a period of five years, without narcotic privileges.

Robert S. Friend, M. D., revoked October 19, 1935, was on July 10, 1935, restored and placed on probation for five years, without narcotic privileges.

James A. Hadley, M. D., revoked October 19, 1933, was on July 8, 1935, restored and placed on probation for five years, without narcotic privileges.

Arthur W. Hewitt, M. D., was on July 9, 1935, found guilty of narcotic dereliction and placed on probation for three years, without narcotic privileges.

William J. Jacobs, M. D., was revoked July 9, 1935, based on the record of his conviction of murder and incarceration in San Quentin penitentiary.

Ramon Lopez, M. D., was on July 10, 1935, revoked, based on the record of his narcotic addiction.

Sam Lustberg, M. D., was on July 9, 1935, revoked, based on the record of his conviction in New Jersey of an asserted conspiracy to defraud an insurance company.

Shuah M. Mann, M. D., was on July 10, 1935, placed on probation for a period of three years, based upon his reported conviction of asserted bribery of a public official.

Frances E. McNealy, M. D., was on July 10, 1935, revoked, based on charges of narcotic addiction.

Byron H. Pelton, M. D., was revoked July 9, 1935, based on record of his conviction of narcotic dereliction.

Charles M. Stewart, M. D., revoked March 1, 1933, was on July 8, 1935, restored and placed on probation for a period of five years, without narcotic privileges.

On July 3, 1935, Attorney-General U. S. Webb rendered to the Board of Chiropractic Examiners Opinion 9917 to the effect that "the Chiropractic Act did not require an applicant for examination to possess a degree of 'Doctor of Chiropractic' and that an applicant who did not possess such a degree had a right to apply for examination for a license to practice chiropractic." In Opinion No. 10062, rendered by Attorney-General Webb to the Board of Medical Examiners, it was held that "a person who was graduated from an incorporated school that did not confer a degree would not be permitted to use the prefix 'Dr.' even though such person were granted a license to practice chiropractic." In this same opinion the Attorney-General held it was not necessary under Section 15 of the Chiropractic Initiative Act to use "any expression following the licensee's name. If, however, a designation follows

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* The office addresses of the California State Board of Medical Examiners are printed in the roster of advertising page 6.

(Continued in Front Advertising Section, Page 15)

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"Now I can understand why an old friend and doctor told me when I started to practice to get in touch with The Medical Protective Company. He said I would avoid a lot of sleepless nights. Thanks, so much!"

THE
MEDICAL PROTECTIVE COMPANY
OF FORT WAYNE, INDIANA
WHEATON, ILLINOIS

(Continued from Page 31)

background of the extensive trade in mixtures of various domestic vegetable oils masquerading as imported olive oil, many seizures of which were made during the past year. Four lots were seized in May. The color used is green, in imitation of certain types of olive oil, and the artificial flavor is one which gives to the finished article a flavor suggesting olive oil.

Tomato products made from moldy or otherwise unfit material, though representing a small percentage of such products on the market, are still in the front rank of food law violations. Thirty-three lots were seized in May, Federal officials report.

Other foods confiscated for violation of the same provision of the law were dirty and insect-infested dried peaches, thirty-four sacks of decomposed coconuts, one lot of moldy dried red peppers, three lots of canned cowpeas found to be insect infested, two lots of insect-infested canned spinach, four hundred cases of wormy and decomposed bottled olives which were also short weight, one lot of rancid condensed milk, 875 gallons of unfit cream en route to buttermakers, 38,000 pounds of moldy, rancid and filthy butter, two shipments of decomposed canned anchovies, four of decomposed canned tuna, and four hundred pounds of tainted fresh shrimp.

Two lots of assorted preserves containing dangerous quantities of lead—a cumulative poison—were seized, as well as the following: a practically worthless imitation lemon flavor, honey adulterated with acidified sugar syrup, two lots of substandard canned peas and one of substandard canned pears not so labeled.

Federal inspectors are persistent in keeping after staple drugs, narcotics and anesthetics which have deteriorated and in which it is therefore dangerous to place reliance. In May, three cylinders of nitrous oxid ("laughing gas") contaminated with other gases, one shipment of below-standard epinephrin chlorid (adre-

(Continued on Page 36)

Civilization

AND THE PROBLEMS OF DIET

New knowledge has brought new viewpoints regarding dietary constituents—particularly the vitamins. Primitive provender was vastly different from the food of today. Moreover, the methods of cooking as generally practiced and the frequent tendency to choose foods for their toothsomeness may rightly raise questions as to whether the full dietary requirements have been met. Among other things we know that vitamins A and D are indispensable to normal growth, health, and vigor.

Science

HAS MADE IT EASY

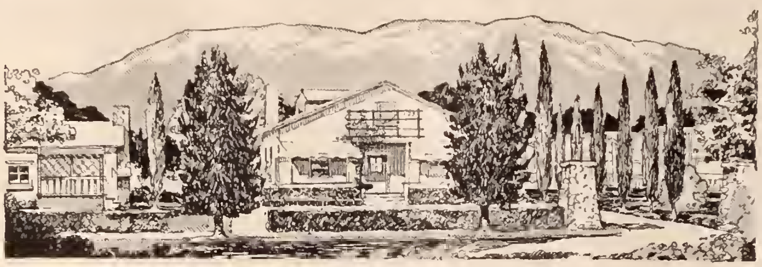
to furnish an adequate amount of these vitamin factors in a palatable form, unobjectionable to the most finicky of patients. Years of intensive research on nutritional problems have led to the development of Haliver Oil with Viosterol as an excellent source of Vitamins A and D.

"The Room of a Thousand Cages"

For many years Parke, Davis & Company's scientific staff has actively engaged in vitamin research. Pioneering and fundamental investigation of halibut liver oils was undertaken in these laboratories. From this rich experience is derived a thorough understanding of the problems of preparation, stabilization, and standardization of Haliver Oil. It is this background that contributes to the confidence with which the physician specifies "Parke-Davis Haliver Oil with Viosterol."

Parke-Davis Haliver Oil with Viosterol is supplied in 5-cc. and 50-cc. amber bottles with dropper, and in boxes of 25 and 100 three-minim capsules.

PARKE, DAVIS & COMPANY, DETROIT, MICHIGAN



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Has established and maintained a reputation, both among physicians and patients, for service and satisfaction.

Doctor: Send your next patient here, and you may feel assured not only that he will receive maximum benefit from his sojourn, but he will be grateful and will thank you for sending him to

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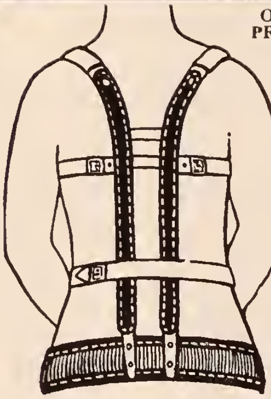

OTHERS ASK UP TO $50.00
TAYLOR SPINAL BRACE

OUR PRICE $20.00

A well padded surgical steel spinal support furnished with apron and perineal straps.

Made to order in 24 hours

Take measurements around iliac crest, umbilicus, distance from sacro lumbar articulation to 7th cervical vertebra prominence.

THIS HIGH GRADE
OTHERS ASK UP TO $10.00 **SACRO-ILIAC BELT** OUR PRICE $3.50

Beautifully made of six inch orthopedic webbing, well reinforced, supplied with perineal straps.

Take measurements around the hips three inches below the iliac crest.

WE ALSO MAKE—

Abdominal Belts, $3.50 — for hernia, obesity, maternity, ptosis, post-operative.

Hood Truss	$ 4.00
Thomas Leg Splints	4.00
Ambulatory Splint	15.00
Cervical Neck Brace	20.00

F. A. RITTER CO.
310 Woodward Ave., Detroit, Mich.

Have You Received Our New Catalog?

(Continued from Page 34)

nalin) and two of belladonna extract, and a large stock of a dozen different deteriorated drugs, were seized.

The miscellaneous items last mentioned were shipped by a wholesale drug house operating in Houston and Waco, Texas, purchasing and selling old stocks of slow-moving items and bankrupt and fire-sale merchandise, much of which is so damaged and deteriorated as to constitute a serious health menace. Firms of this sort also frequently resurrect patent medicines common at the time of the passage of the Food and Drugs Act in 1906, still bearing the uncontrolled claims of that day. Their apprehension requires constant vigilance, as the Federal Government may do nothing until the article enters interstate commerce.

Patent medicines involved in seizure proceedings during May were the following: "Aimotone" labeled as a blood purifier and tonic for rejuvenating the blood, nerves, and glands; "Fowlerine" for kidney trouble, rheumatism, and nervousness; "Dr. Goudy's Magic Liniment" for eczema, lockjaw, snake-bite and and barb-wire cuts, and other veterinary uses; "Sip-O" for coughs, bronchitis, bronchial asthma, whooping-cough, sore throat, catarrh, hay fever, and hoarseness; and "Walter's Radiant Hair Rejuvenator" for scalp and hair diseases.

In all cases, the Government alleged that the claims for the medicines were false and fraudulent since they could not be realized. The labeling of "Slim," a dinitrophenol reducing preparation, was also held to be false and fraudulent, since it represented the product as harmless and safe to use, in spite of widespread and uniform medical evidence of the dangerous character of the drug dinitrophenol. . . .

San Joaquin Health Unit Wins First Honors.—In 1934 a new health conservation contest was started to give the more rural areas an opportunity to compete with one another in the same way that cities have been doing since 1929. This new health project was made possible through a generous gift from the W. K. Kellogg Foundation of Battle Creek, Michigan. The results of the first year of the new contest have been announced by the Chamber of Commerce of the United States and the American Public Health Association, which bodies jointly conduct the contest.

The report shows a remarkable enrollment for the initial year as over 50 per cent of the possible participants enrolled. The contest is limited to counties and districts which have full-time health service, and 105 such counties or districts have enrolled, representing all but one state in the Union which have eligible units. The population included in participating units is between six and seven million.

For this contest the United States is divided into six geographical divisions, three east and three west of the Mississippi River.

In the Western Division, first prize is awarded to San Joaquin Health District, and honorable mention is attained by Los Angeles County; Santa Barbara County, Spokane County, Washington, and Yakima County, Washington.

With 105 county or district health units, we find sixteen states represented among the twenty-seven awards. Tennessee, Michigan, California, and New York lead with three awards each, followed by Maryland, Mississippi, and Washington with two each. Florida, Georgia, Iowa, Kansas, Massachusetts, North Carolina, South Carolina, Texas, and West Virginia received one award each.

CALSO WATER

Palatable ALKALINE *Sparkling*

NOT A LAXATIVE

Calso Water: An efficient method of supplying the normal ALKALINE SALTS for counteracting ACIDOSIS.

Calso Water: Made of distilled water and the ALKALINE SALTS (C. P.) normally present in the healthy body.

Calso Water: Counteracts and prevents ACIDOSIS, maintains the ALKALINE RESERVE.

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One of the Oldest Banks in California, the Assets of which have never been increased by mergers or consolidations with other banks

526 California Street, San Francisco, California

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Assets $169,421,331.28 Deposits $154,803,474.97

Capital Paid up	$6,000,000.00
Surplus	$4,000,000.00
Reserves and Undivided Profits	$4,157,383.06
Total Capital Account	$14,157,383.06

MISSION BRANCH, Mission and Twenty-First Streets
PARK-PRESIDIO BRANCH, Clement Street and Seventh Avenue
HAIGHT STREET BRANCH, Haight and Belvedere Streets
WEST PORTAL BRANCH, West Portal Avenue and Ulloa Street

First places in the rural contest went, one each, to California, Maryland, Georgia, New York, Texas, and Iowa.

The contest has as its purpose the elimination of premature deaths and the reduction of economic losses due to unnecessary illness. It seeks to accomplish this purpose by enlisting the active interest of business men in public health and by encouraging a more unified and coördinated program on the part of the several groups or organizations interested or engaged in the protection and promotion of the public health.

Each participating rural unit, having been visited by a representative of the American Public Health Association, submits a schedule, detailing its health practices and accomplishments. These schedules are scored by a committee of health experts, and awards are made on the basis of their findings.

The items on which participants in the rural contest are scored are similar to those selected for the scoring of cities, except that problems peculiar to rural districts are particularly emphasized, such as the water supplies and disposal of wastes for schools and tourist camps, as well as the general preventive and protective measures included in a reasonably well-developed public health program applicable to all communities.

Anybody may have personality. All that is necessary is a quality or a defect sufficient to dominate the mental faculties which exists in an uncommon form in juxtaposition to the common form of other individuals.—H. Laurent.

Middle-Age and Exercise.—"In the customary American manner of doing everything enthusiastically, a former college athlete, aged fifty-four, the other day attempted to show members of a visiting hockey team 'some fancy skating.' He gave an impressive account of himself during the first fifteen minutes on the ice, and then collapsed. He was carried from the rink, dead. Sudden and unaccustomed exertion thus claimed another victim. And while undoubtedly this is an extreme case, it serves to emphasize that to those of middle-age and older, violent and unusual exercise

(Continued on Next Page)

Solving the problem of

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IN CASES of tonsilitis, pharyngitis, peritonsillar abscess, retro-pharyngeal abscess, cervical adenitis—

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(Continued from Preceding Page)

may be definitely hazardous," states Dr. Edith MacBride-Dexter, Secretary of Health.

"While the advantages of physical activities at any age are apparent, moderation is the logical rule for persons no longer young. Sustained and strenuous activities make heavy demands upon the body. Even the youthful athlete is required to pass tests and undergo a careful training period before he is permitted to engage in major sports.

"Perhaps it may be a blow to one's conceit, but the wise middle-aged person will realize that, no matter how young he thinks he looks or how young he feels, time has been making inroads. It is indeed the exception where the resiliency of a twenty-year-old youth is associated with the physiology of advancing age. Men like Tilden, and others who have continuously kept in training, can vigorously exercise with no apparent ill effects. But the same cannot be said of those whose strenuous sport life ended with their scholastic days.

"For swivel-chair men in an outburst of ardor to jump into a violent sport and play 'until it hurts' is throwing a sudden tax upon the body that not only backfires with older persons but some time with those not so old as well.

"It follows that, whether one is young or otherwise, intelligence should be applied to athletics and recreations. And this suggestion calls for a thorough check-up by the family physician. Untoward conditions, if they happen to exist, are thus discovered, and one's activities can then be geared accordingly.

"Of course, in this highly mechanized age there is too great a tendency to underemphasize bodily needs. In fact, there is a crying demand for both men and women to become more exercise-conscious than they are today. However, the point is first to find one's limitations both regarding age and bodily condition and then exercise with whatever caution and restraint that the situation demands."

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ORVILLE N. MELAND, M.D.
LUDWIG LINDBERG, M.D.
Tumor Pathology
A. H. WARNER, Ph.D.,
Physicist

Good Advice

If you have a thing to say,
Cut it down!
Something you must write today,
Cut it down!
Let your words be short and few,
Aim to make them clear and true,
Monosyllables will do,
Cut it down!

Are you writing to the press?
Cut it down!
Make it half or even less,
Cut it down!
Editors like pithy prose,
Lengthy letters are their foes,
Take a hint from "One Who Knows."
Cut it down.

—Grenville Kleiser in the *Paris Herald.*

It Is the Same Old Profession.—Pasteur's discoveries marked the beginning of a great alteration in the practice of medicine. Yet, while these discoveries were revolutionary, there never has been a moment since his time at which a large part of medical practice has not been old and stable; it is simply that progress has been united with this stability, the energy of youth with the majesty of that immemorial antiquity that leads back far beyond The Oath.

Even in the populous districts, the practice of medicine is a lonely road which winds uphill all the way, and a man may easily go astray and never reach the delectable mountains unless he early finds those shepherd guides of whom Bunyon tells, Knowledge, Experience, Watchful and Sincere.—Osler.

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The Colfax School for the Tuberculous offers the following advantages:

1. Patients are given individual care by experienced tuberculosis specialists. The patient is treated according to his individual needs.

2. Patients are taught how to secure an arrest of their disease, how to remain well when once the disease is arrested, and how to prevent the spread of the disease.

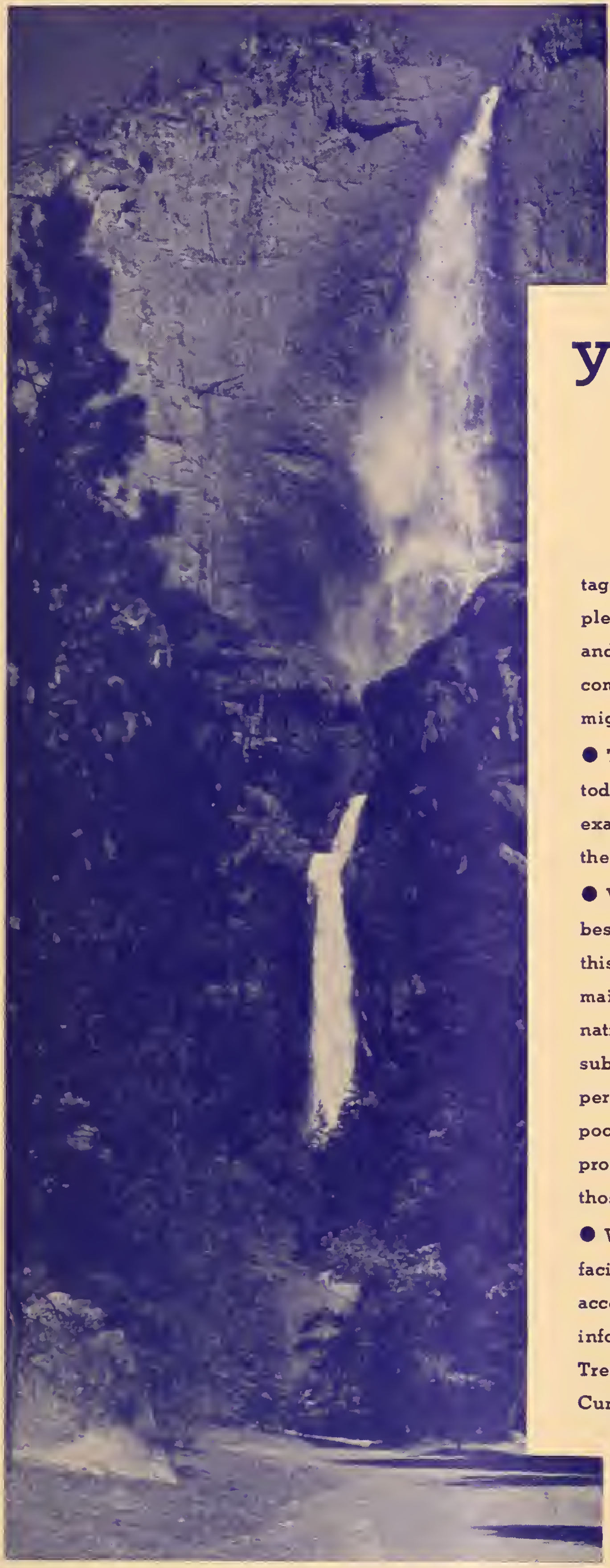
3. Patients have the advantage of modern laboratory aids to diagnosis and of all modern therapeutic agencies.

4. The climate of Colfax enables the patient to take the cure without discomfort twelve months in the year. We believe climate is secondary to medical supervision and rest, but the fact remains that it is easier to "cure" under good climatic conditions than where these climatic conditions are absent.

5. Colfax is accessible. It is on the main line of the Ogden Route of the Southern Pacific R. R. and has excellent train service. It can be reached by paved highway, being on the Victory Highway, with paved roads all the way to Colfax.

For further information address

ROBERT A. PEERS, M. D., *Medical Director*
Colfax, California



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● We welcome inquiries regarding our service facilities for special cases. Details about hotel accommodations, rates, special arrangements — any information at all — will be sent on request to Don Tresidder, M. D., President, Yosemite Park and Curry Company, Yosemite National Park, California.

●

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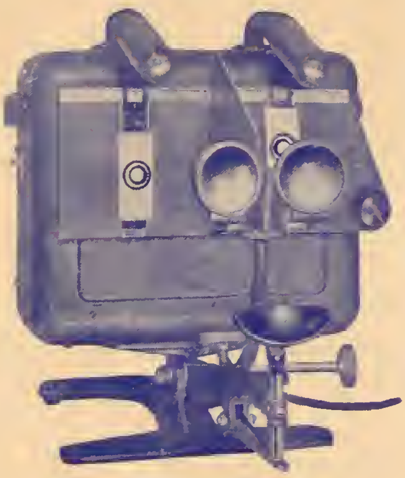

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Vincent V. Suglian, M. D.

OTOLARYNGOLOGY

Lafayette P. Monson, M. D.

C. M. A. MEMBERSHIP ROSTER
SEPTEMBER, 1935

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1. Alameda County.
2. Butte County.
3. Contra Costa County.
4. Fresno County.
5. Humboldt County.
6. Imperial County.
7. Kern County.
8. Kings County.
9. Lassen-Plumas-Modoc County.
10. Los Angeles County.
11. Marin County.
12. Mendocino-Lake County.
13. Merced County.
14. Monterey County.
15. Napa County.
16. Orange County.
17. Placer (El Dorado, Nevada, Sierra) County.
18. Riverside County.
19. Sacramento County.
20. San Benito County.
21. San Bernardino County.
22. San Diego County.
23. San Francisco County.
24. San Joaquin County.
25. San Luis Obispo County.
26. San Mateo County.
27. Santa Barbara County.
28. Santa Clara County.
29. Santa Cruz County.
30. Shasta County.
31. Siskiyou County.
32. Solano County.
33. Sonoma County.
34. Stanislaus County.
35. Tehama County.
36. Tulare County.
37. Ventura County.
38. Yolo-Colusa-Glenn County.
39. Yuba-Sutter County.

COUNTY SOCIETY MEMBERSHIP TOTALS
(Year 1934)

Alameda County	473
Butte County	18
Contra Costa County	43
Fresno County	113
Humboldt County	31
Imperial County	23
Kern County	48
Kings County	18
Lassen-Plumas-Modoc County	10
Los Angeles County	2,000
Marin County	33
Mendocino-Lake County	20
Merced County	24
Monterey County	46
Napa County	27
Orange County	107
Placer County	29
Riverside County	60
Sacramento County	132
San Benito County	5
San Bernardino County	119
San Diego County	227
San Francisco County	775
San Joaquin County	86
San Luis Obispo County	25
San Mateo County	49
Santa Barbara County	99
Santa Clara County	168
Santa Cruz County	30
Shasta County	11
Siskiyou County	20
Solano County	23
Sonoma County	47
Stanislaus County	38
Tehama County	12
Tulare County	37
Ventura County	32
Yolo-Colusa-Glenn County	25
Yuba-Sutter County	11
Active members	5,094
Associate members	6
Retired members	57
Honorary members	12
Total members	5,169

Seventy-six members died during the year 1934.

Editor's Note.—The California Medical Association by-laws provide for an annual directory. Because every member receives the annual directory of the Board of Medical Examiners of the State of California, and in order to avoid the great cost of duplication of such a directory, the California Medical Association Council has decided to print in the official journal a simple roster of members, giving for each member the city or place of residence, with a key number to indicate the county medical society in which membership is held. For additional information concerning school of graduation, etc., the State Medical Board directory or the central office of the California Medical Association should be consulted. Errors in the list here printed should be promptly reported to the central office of the California Medical Association, Four Fifty Sutter, San Francisco.

I. ACTIVE MEMBERS

— A —

NAME	CITY	COUNTY SOCIETY NO.
Abbott, C. L.,	*Oakland*	1
Abbott, C. N.,	*Ontario*	21
Abbott, D. H.,	*Ukiah*	16
Abbott, F. F.,	*Ontario*	21
Abbott, G. K.,	*Ukiah*	12
Abbott, L. C.,	*San Francisco*	23
Abbott, U. S.,	*Richmond*	3
Adun-Nur, A. S.,	*Los Angeles*	10
Abowitz, J.,	*Los Angeles*	10
Abraham, H.,	*Los Angeles*	10
Abraham, S. V.,	*Los Angeles*	10
Abraham, V. R.,	*Long Beach*	10
Achenbach, L. W.,	*Ventura*	37
Adams, B. A.,	*San Leandro*	1
Adams, B. O.,	*Riverside*	18
Adams, B. W.,	*Oakland*	1
Adams, E. L.,	*Galt*	19
Adams, H. G.,	*Fresno*	4
Adams, J. H.,	*Oakland*	1
Adams, L. P.,	*Oakland*	1
Adams, W. C.,	*Oakland*	1
Adams, W. L.,	*Fresno*	4
Adler, H. M.,	*Berkeley*	1
Agmar, A. R.,	*San Francisco*	23
Ahlem, J. E.,	*Livermore*	1
Ahrens, C. L.,	*Artesia*	10
Aiken, S. D.,	*San Francisco*	22
Ainley, F. C.,	*Los Angeles*	10
Aird, J. L.,	*Manhattan Beach*	10
Aitken, H. C.,	*Berkeley*	1
Akesson, H. N.,	*Oakland*	1
Alanson, M. R.,	*San Francisco*	23
Albert, J. A.,	*Oroville*	34
Albert, W.,	*Los Angeles*	10
Alberty, W. M.,	*East San Diego*	22
Albi, P.,	*San Francisco*	23
Alcazar, I.,	*Los Angeles*	10
Alcon, D. N.,	*Los Angeles*	10
Alden, B. F.,	*San Francisco*	23
Alden, E.,	*Los Angeles*	10
Alden, W. C.,	*Los Angeles*	10
Alderson, H. E.,	*San Francisco*	23
Alderson, V. G.,	*Oakland*	1
Aldrich, W. S.,	*Los Angeles*	10
Alesen, L. A.,	*Los Angeles*	10
Alexander, A. A.,	*Oakland*	1
Alexander, E.,	*Oakdale*	34
Alexander, E. W.,	*San Francisco*	23
Allan, J. T. M.,	*Los Angeles*	10
Allen, A.,	*San Pedro*	10
Allen, A. B.,	*Los Angeles*	10
Allen, C. L.,	*Los Angeles*	10
Allen, C. S.,	*Los Angeles*	10
Allen, D. M.,	*Oakland*	1
Allen, E. G.,	*Patterson*	34
Allen, H. W.,	*San Francisco*	23
Allen, J.,	*Raymond*	4
Allen, J. R.,	*Los Angeles*	10
Allen, M. R.,	*Fairfax*	11
Allen, O. K.,	*San Francisco*	23
Allen, P. K.,	*San Diego*	22
Allen, R. E.,	*Reedley*	4
Allen, R. W.,	*Huntington Park*	10
Allen, W. B.,	*Oakland*	1
Aller, D. I.,	*Fresno*	4
Allington, H. V.,	*Oakland*	1
Allum, A. W.,	*Glendale*	10
Alsberge, E. W.,	*Glendale*	10
Alter, S. M.,	*Los Angeles*	10
Althausen, T. L.,	*San Francisco*	23
Alvarez, L. F.,	*Los Angeles*	10
Alward, H. C.,	*Los Angeles*	10
Amaral, E. A.,	*San Jose*	28
Ames, E. W.,	*Los Angeles*	10
Ammann, F. X., Jr.,	*Los Angeles*	10
Amsbaugh, A. E.,	*San Francisco*	23
Amyes, H. W.,	*Huntington Park*	10
Anderson, A. C.,	*Petaluma*	33
Anderson, A. E.,	*Fresno*	4
Anderson, A. V.,	*Pasadena*	10
Anderson, B. N.,	*Burbank*	10
Anderson, C. M.,	*Hermosa Beach*	10
Anderson, E. DeM.,	*San Luis Obispo*	25
Anderson, E. F.,	*San Francisco*	22
Anderson, F. N.,	*Los Angeles*	10
Anderson, F. R.,	*Campbell*	28
Anderson, H., Jr.,	*Los Angeles*	10
Anderson, H. C.,	*Pomona*	10
Anderson, H. E.,	*Culver City*	10
Anderson, H. H.,	*San Francisco*	23
Anderson, J. F.,	*Los Angeles*	10
Anderson, J. G.,	*Petaluma*	33
Anderson, N. P.,	*Los Angeles*	10
Anderson, O.,	*Santa Monica*	10
Anderson, S. C.,	*Sawtelle*	10
Anderton, H. S.,	*San Diego*	22
Andre, E. M.,	*Los Angeles*	10
Andrews, C. B.,	*Sonoma*	33
Andrews, H. F.,	*San Diego*	22
Andrews, H. J.,	*Hollywood*	10
Andrews, J. N.,	*Los Angeles*	10
Andrews, V. L.,	*Los Angeles*	10
Andrews, W. A.,	*Yucaipa*	21
Andrus, L. M.,	*King City*	14
Ankele, C. W.,	*Sacramento*	19
Annis, A. J.,	*Los Angeles*	10
Anton, F. L.,	*Los Angeles*	10
Appeldorn, H. H.,	*Oakland*	1
Apple, W. W.,	*El Centro*	6
Arbuthnot, R. E.,	*Glendale*	10
Arehart, A. A.,	*Monterey*	14
Arkush, A. S.,	*Santa Monica*	10
Armen, G. H.,	*Los Angeles*	10
Armitstead, R. B.,	*Ventura*	37
Armstrong, E. L.,	*Los Angeles*	10
Armstrong, M. I.,	*Berkeley*	1
Arnett, L. A.,	*Waterford*	34
Arnold, F. L.,	*Long Beach*	10
Arnold, H. J.,	*San Jose*	28
Arnold, H. R.,	*San Francisco*	23
Arnold, M. H.,	*San Diego*	22
Arnold, W. F.,	*Long Beach*	10
Arnot, P. H.,	*San Francisco*	23
Arthurs, E.,	*San Francisco*	22
Ash, R. L.,	*San Francisco*	23
Ashcroft, F. E.,	*Chula Vista*	20
Ashley, K. C.,	*Southgate*	10
Ashley, N. N.,	*Oakland*	1
Ashley, R. E.,	*San Francisco*	23
Askey, E. V.,	*Los Angeles*	10
Askey, J. M.,	*Los Angeles*	10
Atkinson, C. E.,	*Banning*	18
Atkinson, D. W.,	*San Francisco*	23
Atkinson, R. C.,	*Colfax*	17
Atsatt, R. F.,	*Santa Barbara*	27
Atteberry, C. V.,	*Inglewood*	10
Attwood, W. G.,	*Los Angeles*	10
Atwood, A. C.,	*Chowchilla*	13
Atwood, H. A.,	*Riverside*	18
Audrain, L. C.,	*Los Angeles*	10
Austin, L. C.,	*Los Angeles*	10
Austin, R. E.,	*Coronado*	22
Austin, T. C.,	*Pasadena*	10
Avery, J. W.,	*Hollywood*	10
Avery, W. J.,	*Fresno*	4
Axline, J. T.,	*North Hollywood*	10
Ayer, E. W.,	*Oakland*	1
Ayres, S., Jr.,	*Los Angeles*	10
Ayers, T. F.,	*San Francisco*	23
Ayres, W.,	*Los Angeles*	10
Azevedo, J. A.,	*Hayward*	1
Azevedo, J. L., Jr.,	*Modesto*	34
Azevedo, M. L.,	*Sacramento*	19

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NAME	CITY	COUNTY SOCIETY NO.
Babcock, D. W.,	*Placerville*	19
Babcock, E. S., Jr.,	*Sacramento*	19
Babcock, J. W.,	*Placerville*	19
Babcock, L. G.,	*Vernon*	10
Babcock, R. A.,	*Willits*	12
Babienco, A. T.,	*San Diego*	22
Babington, S. H.,	*Berkeley*	1
Baccus, C. F.,	*Woodstock, Ill.*	10
Bachelder, B. B.,	*Sebastopol*	33
Bacher, J. A.,	*San Francisco*	23
Bachhuber, C. A.,	*Los Angeles*	10
Bachmann, G. W.,	*Santa Monica*	10
Bacigalupi, A. A. J.,	*San Francisco*	23
Bacigalupi, L. D.,	*San Francisco*	23
Bacon, S. K.,	*Hollywood*	10

NAME	CITY	COUNTY SOCIETY NO.
Baer, H.,	*Elsinore*	18
Baetz, W. G.,	*Huntington Park*	10
Bahrenburg, G. E.,	*Bakersfield*	7
Bailey, C. O.,	*Los Angeles*	10
Bailey, F. J.,	*Red Bluff*	35
Bailey, W.,	*Los Angeles*	10
Bailey, T. E.,	*San Francisco*	23
Bailey, W. E.,	*Los Angeles*	10
Baiocchi, A. J.,	*San Jose*	28
Baird, C.,	*San Bernardino*	21
Baird, C. G.,	*Santa Maria*	27
Baird, H. R.,	*Sacramento*	19
Baird. M. N.,	*Redondo Beach*	10
Bak, E. W.,	*Los Angeles*	10
Baker, C. D.,	*Los Angeles*	10
Baker, G. L.,	*San Francisco*	23
Baker, H. V.,	*Napa*	15
Baker, J. J.,	*West Los Angelés*	10
Baker, M. D.,	*San Jose*	28
Baker, R. W.,	*Los Angeles*	10
Baker, W. P.,	*Santa Ana*	16
Bakewell, B.,	*Santa Barbara*	27
Baldwin, A. K.,	*Long Beach*	10
Baldwin, A. L.,	*Healdsburg*	33
Baldwin, L. G.,	*Pasadena*	10
Baldwin, M. C.,	*Riverside*	18
Ball, C. D.,	*Santa Ana*	16
Ball, D. R.,	*Santa Ana*	16
Ball, F. I.,	*Los Angeles*	10
Ball, H. A.,	*San Diego*	22
Ball, J. D.,	*San Francisco*	23
Ball, J. D.,	*Santa Ana*	16
Ballard, C. H.,	*Santa Monica*	10
Ballard, S. E.,	*Long Beach*	10
Balyeat, F. S.,	*Los Angeles*	10
Bames, H. O.,	*Los Angeles*	10
Bancroft, I. R.,	*Los Angeles*	10
Bandelier, R. H.,	*Los Angeles*	10
Banks, A. E.,	*San Diego*	22
Banks, W. H.,	*San Francisco*	23
Barber, E. M.,	*Oakland*	1
Barber, P. S.,	*Porterville*	36
Barbour, N. P.,	*Stockton*	24
Barclay, H. A.,	*San Diego*	22
Bardill, J. W.,	*Ventura*	37
*Barkan, A.,	*Zurich*	23
Barkan, H.,	*San Francisco*	23
Barkan, O.,	*San Francisco*	23
Barker, J. L.,	*Brawley*	6
Barlow, T. H.,	*Long Beach*	10
Barlow, W. J.,	*Los Angeles*	10
Barmore, M. G.,	*Calexico*	6
Barnard, F. S.,	*Los Angeles*	10
Barnard, H. D.,	*Los Angeles*	10
Barnard, H. D.,	*Los Angeles*	10
Barnard, L. B.,	*Oakland*	1
Barnes, J. W.,	*Stockton*	24
Barnes, L. B.,	*Newcastle*	17
Barnes, P. D.,	*Loomis*	17
Barnes, R. W.,	*Los Angeles*	10
Barnes, W. H.,	*Chico*	2
Barnett, E. D.,	*Santa Rosa*	33
Barnett, G. D.,	*San Francisco*	28
Baron, P. P.,	*Alameda*	31
Barr, A. L.,	*San Diego*	22
Barr, W. T.,	*Fresno*	4
Barrett, G. M.,	*San Francisco*	23
Barrette, L. C.,	*Sacramento*	19
Barron, H. C., Jr.,	*Escondido*	22
Barrow, J. V.,	*Los Angeles*	10
Barrow, W. H.,	*San Diego*	22
Barry, G. L.,	*San Jose*	28
Bartle, I. B.,	*San Luis Obispo*	25
Bartholomew, J. Y.,	*San Francisco*	23
Bartholomew, T. E.,	*Calexico*	6
Bartlett, C. L.,	*Pasadena*	10
Bartlett, E. I.,	*San Francisco*	23
Barton, E. W.,	*Alhambra*	10
Bascom, F. S.,	*Oakland*	1
Bates, C. E. H.,	*San Francisco*	23
Bathurst, E. W.,	*Etna*	31
Baughman, W. H.,	*Oakland*	1
Baumgaertner, O.,	*Los Angeles*	10
Baumgartner, C. J.,	*Los Angeles*	10
Bautista, M. D.,	*Stockton*	24
Baxter, C. P.,	*San Diego*	22
*Baxter, D. E.,	*Glendale*	10
Baxter, F. S.,	*Oakland*	1
Bay, M. W.,	*Los Angeles*	10
Bay, S. G.,	*Los Angeles*	10
Bayer, L. M.,	*San Francisco*	23
Bayley, W. A.,	*Los Angeles*	10
Baylis, J. N.,	*San Bernardino*	21
Beach, E. W.,	*Sacramento*	19
Beall, M. E.,	*Patton*	21
Bear, N. K.,	*Riverside*	18
Beard, E. A.,	*Inglewood*	10
Beardslee, A.,	*San Francisco*	23
Beardsley. J. R.,	*San Diego*	22
Beasley, E. M.,	*Santa Ana*	16
Beasley, H. E.,	*Glendale*	10
*Beattie, D. A.,	*San Jose*	28
Beattie, H.,	*Elk Grove*	19
Beattie, J. I.,	*San Jose*	28
Beattie, W. A.,	*Sacramento*	19
Beatty, H. J.,	*Clinton, New Jersey*	10
Beatty, J. D.,	*Los Angeles*	10
Beauchamp, H. H.,	*Sacramento*	19
Beaudoux, H. A.,	*Oakland*	1
Beaver, H. J.,	*Palo Alto*	28
Beaver, M. G.,	*Redlands*	21
Beck, H. H.,	*Corning*	35
Beck, H. R.,	*Los Angeles*	10
Beck, J. A.,	*Salinas*	14
Beck, J. E.,	*Tulare*	36
Becka, S. J.,	*Los Angeles*	10
Becker, G. H.,	*San Francisco*	23
Becker, H. F.,	*Los Angeles*	10
Becker, W. A.,	*Los Angeles*	10
Becker, W. N.,	*Sacramento*	19
Bedri, M. R.,	*Los Angeles*	10
Beebe, J. L.,	*Anaheim*	16
Beebe, L. J.,	*Santa Maria*	27
Beede, A. H.,	*Walnut Creek*	3
Beekler, A. M.,	*Santa Maria*	27
Beerman, W. F.,	*San Francisco*	23
Beeson, H. O.,	*San Bernardino*	21
Behne, K. F.,	*Los Angeles*	10
Behneman, H. M. F.,	*San Francisco*	23
Behrendt, R. A.,	*Los Angeles*	10
Beigelman. M.,	*Los Angeles*	10
Belford, W. W.,	*San Diego*	22
Bell, H. G.,	*San Francisco*	23
Bell, H. W.,	*Bakersfield*	7
Bell, M. T.,	*Ventura*	37
Bell, T. F.,	*Oakland*	1
Bell, W. L.,	*Oakland*	1
Belt, A. E.,	*Hollywood*	10
Belt, R. L.,	*Montrose*	10
Belyea, J. H.,	*Los Molinos*	35
Bender, W. L.,	*San Francisco*	23
Benner, E. A.,	*San Mateo*	26
Bennett, C. B.,	*Berkeley*	1
Bennett, C. L.,	*Los Angeles*	10
Bennett, C. R.,	*Pasadena*	10
Bennett, D. W.,	*San Francisco*	23
Bennett, E. L.,	*Fresno*	4
Bennett, E. S.,	*Los Angeles*	10
Bennett, L. B.,	*Los Angeles*	10
Bennett, L. C.,	*Los Angeles*	10
Bennett, M. C.,	*Berkeley*	1
Bennette, M. A.,	*San Bernardino*	21
Bennetts, F. A.,	*Los Angeles*	10
Benninger. C., Jr.,	*Oroville*	2
Benninghoven, C. D.,	*Oakland*	1
Benson, C. B.,	*Modesto*	34
Benson, E. H., Jr.,	*Berkeley*	1
Benton, J. J.,	*Oakland*	1
Benveniste, I. E.,	*Los Angeles*	10
Bepler, A. C.,	*San Francisco*	23
Berauer, J. M.,	*Los Angeles*	10
Berg, A.,	*San Francisco*	23
Berg, G. O.,	*Hollywood*	10
Berge, F. E.,	*Los Angeles*	10
Berger, A. A.,	*San Francisco*	23
Bergman, R. T.,	*Los Angeles*	10
Bergstrom, F. K.,	*Los Angeles*	10
Berkes, H. A.,	*Hollywood*	10
Berkley, H. K.,	*Los Angeles*	10
Berkove, S. E.,	*Oakland*	1
Berman, P.,	*Los Angeles*	10
Bernardini, C. V.,	*San Diego*	22
Berne, C. J.,	*Los Angeles*	10
Bernstein, A.,	*San Francisco*	23
Berry, B. S.,	*Santa Maria*	27
Bertero, J.,	*Santa Maria*	27
Bertola, M.,	*San Francisco*	23
Best, E. J.,	*San Francisco*	23
Bettercourt, M. F.,	*Watsonville*	29
Bettin, M. E.,	*Los Angeles*	10
Betts, I. H.,	*Visalia*	36
Bewley, M. H.,	*Los Angeles*	10
Bicknell, H. E.,	*Long Beach*	10
Bierman, J. M.,	*San Francisco*	23
Bieler, H. G.,	*Pasadena*	10
Bigby, M. H.,	*Whittier*	10
Bigler, A. B.,	*Chowchilla*	23
Bill, P. A.,	*San Francisco*	23
Billingsley, U. C.,	*Hayward*	1
Bilon, L. V.,	*Los Angeles*	10
Bine, R.,	*San Francisco*	23
Bingaman, E. W.,	*Salinas*	14
Bingaman, W. H.,	*Salinas*	14
Bingham, E.,	*Riverside*	18
Binkley, R. W.,	*Selma*	4
Binkley, T.,	*Sacramento*	19
Bird, A. A.,	*Oakland*	1
Birkenstock, C. F.,	*San Diego*	22
Birnbaum, W. D.,	*San Francisco*	23
Bishop, C. R.,	*Long Beach*	10
Bishop, T. E.,	*San Diego*	22
Bishop, T. W.,	*S. Pasadena*	10
Bittner, C. L.,	*Sacramento*	19
Bittner, L. H.,	*Glendale*	10
Bittner, S. P.,	*Glendale*	10
Black, B. W.,	*Oakland*	1
Black, E. C.,	*San Diego*	22
Black, H.,	*Palo Alto*	28
Blackfield, H. M.,	*San Francisco*	23
Blackmun, E. L.,	*Stockton*	24
Blackshaw, J. B.,	*Sonoma*	33
Blaine, E. S.,	*Los Angeles*	10
Blaisdell, F. E., Jr.,	*Watsonville*	29
Blake, C. R.,	*Richmond*	3
Blanchard, L. H.,	*Oakland*	1
Blanchard, T. L.,	*San Jose*	28
Blank, B.,	*Los Angeles*	10
Blatherwick, A. A.,	*Los Angeles*	10
Blatherwick, G. W.,	*Los Angeles*	10
Blecker, R. F.,	*Fresno*	4
Blemer, J. W.,	*Diablo*	3
Blevins, W. J.,	*Woodland*	38
Blinn, J. F.,	*Stockton*	24
Bliss, G. L.,	*Long Beach*	10
Bliss, W. P.,	*Pasadena*	10
Bloch, J. L.,	*San Pedro*	10
Block, C. A.,	*San Francisco*	23
Blodgett, H. H.,	*Beverly Hills*	10
Blodgett, W. LeR.,	*Calistoga*	15
Blond, H. H.,	*Los Angeles*	10
Blong, P. H.,	*Alhambra*	10
Blood, J. N.,	*Redwood City*	26
Bloomfield, A. L.,	*San Francisco*	23
Blossom, H. S.,	*Patton*	21
Blum, S.,	*San Francisco*	23
Blumenthal, E. L.,	*Oakland*	1
Boardman, W. W.,	*San Francisco*	23
Bobbitt, A. N.,	*Pasadena*	10
Bobbitt, J. D.,	*San Diego*	22
Bock, C.,	*Los Angeles*	10
Bodman, E. W.,	*Pasadena*	10
Boe, M. R.,	*Alameda*	1
Boeck, W. C.,	*Los Angeles*	10
Boehm, C. A.,	*San Francisco*	23
Boehm, M.,	*Napa*	15
Boehmer, A. C.,	*Lodi*	24
Boericke, C. C.,	*Berkeley*	1
Boess, E. C.,	*Riverside*	18
Boetticher, E. O.,	*Los Angeles*	10
Boge, H. G. C.,	*Oakland*	1
Bogen, E.,	*Olive View*	10
Bogle, S. S.,	*Santa Rosa*	33
Boland, A. E.,	*Los Angeles*	10
Bolander, L. P.,	*Van Nuys*	10
Bolender, M. C.,	*Danville*	3
Boles, A.,	*Oakland*	1
Bolin, Z. E.,	*San Francisco*	23
Bolinger, H. J.,	*Lodi*	24
Boller, S.,	*Los Angeles*	10
Bollig, H. L.,	*Whittier*	10
Bolognino, O. J.,	*San Francisco*	23
Bolstad, H. C.,	*Oakland*	1
Bolze, E. H.,	*San Francisco*	23
Bonar, P. A.,	*San Francisco*	23
Bond, A. L.,	*Lindsay*	36
Bond, E. C.,	*Hanford*	8
Bonesteel, H. T. S.,	*Los Angeles*	10
Bonfiglio, J.,	*Hollywood*	10
Bonfiglio, V.,	*Los Angeles*	10
Bonoff, K. M.,	*Los Angeles*	10
Bonta, M. B.,	*Los Angeles*	10
Bonthius, A.,	*Pasadena*	10
Bonura, F.,	*Los Angeles*	10
Bonynge, C. W.,	*Los Angeles*	10
Boone, W. R.,	*Berkeley*	1
Boonshaft, L.,	*Los Angeles*	10
Booth, J. A.,	*San Mateo*	26
Booth, M. M.,	*St. Helena*	15
Borden, F. W.,	*San Jose*	28
Borley, R. D.,	*Half Moon Bay*	26
Bormann, G. B.,	*Hollywood*	10
Boscoe, A. R.,	*Sacramento*	19
Boscoe, C. T.,	*Oakland*	1
Boskowitz, G. H.,	*San Francisco*	23
Bost, C.,	*San Francisco*	23
Bost, F. C.,	*San Francisco*	23
Bosworth, H. W.,	*Los Angeles*	10
Botsford, M. E.,	*San Francisco*	23
Bourbon, O. P.,	*Los Angeles*	10
Bowen, C. B.,	*Oakland*	1
Bowen, F. P.,	*Los Angeles*	10
Bower, A. G.,	*Glendale*	10
Bowers, C. H.,	*Los Angeles*	10
Bowers, P. E.,	*Los Angeles*	10
Bowles, A. M.,	*Santa Rosa*	33
Bowles, F. H.,	*Oakland*	1
Bowman, P. J.,	*Fort Bragg*	12
Bowman, R. J.,	*Los Angeles*	10
Boyce, L.,	*Los Angeles*	10
Boyce, W. A.,	*Los Angeles*	10
Boyd, E. F.,	*Los Angeles*	10
Boyd, E. G.,	*Los Angeles*	10
Boyd, R. T.,	*San Francisco*	23
Boyd, T. O.,	*Long Beach*	10
Boyd, W. H.,	*Long Beach*	10
Boyer, H. R.,	*Glendale*	10
Boyer, J. I.,	*Long Beach*	10
Boyer, K. H.,	*Los Angeles*	10
Boyers, L. M.,	*Berkeley*	1
Boyle, S. F.,	*San Francisco*	23
Brady, A. L.,	*San Rafael*	11
Braithwaite, W. W.,	*Beverly Hills*	10
Bramhall, R. N.,	*Sacramento*	19
Bramkamp, A. L.,	*Banning*	18
Bramwell, L.,	*Lake Arrowhead*	21
Branch, W. E.,	*Los Angeles*	10
Brandel, H. M.,	*Los Angeles*	10
Brandenburg, K. C.,	*Long Beach*	10
Brandes, L.,	*Los Angeles*	10
Brandt, F. H.,	*Los Angeles*	10
Brannan, M.,	*Merced*	19
Bransford. S. G.,	*Suisun*	32
Brastad, J. P.,	*Anaheim*	16
Brazelton, H.,	*Oakland*	1
Breck, L. W.,	*Rochester, Minn.*	11
Breed, L. M.,	*Pasadena*	10
Breitman, H. B.,	*Los Angeles*	10
Brem, W. V.,	*Los Angeles*	10

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* Deceased

NAME	CITY	COUNTY SOCIETY NO.
Brendel, F. P.	*Sacramento*	19
Breslin, F. J.	*Los Angeles*	10
Breuer, C. H.	*San Jose*	28
Brewer, L. C.	*Los Angeles*	10
Breyer, J. H.	*Pasadena*	10
Bricca, C. R.	*San Francisco*	23
Bridgman, J. G.	*San Mateo*	26
Bridgman, W. R.	*Hanford*	8
Briggs, G. A.	*Sacramento*	19
Briggs, LeR. H.	*San Francisco*	23
Briggs, W. M.	*Monrovia*	10
Briggs, W. R.	*Sacramento*	19
Brigham, E.	*Dinuba*	36
Brigham, F. O.	*Los Angeles*	10
Brill, W.	*Los Angeles*	10
Brinckerhoff, E. E.	*Oakland*	1
Brinkman, W. F.	*Long Beach*	10
Briner, C. C.	*Auburn*	17
Broaddus, C. A.	*Stockton*	24
Brock, L. H.	*San Francisco*	23
Brockow, J. L.	*Los Angeles*	10
Brockway, A.	*Los Angeles*	10
Brodovsky, D.	*San Jose*	28
Broemser, M. A.	*San Jose*	28
Bronfeld, N.	*Los Angeles*	10
Brooks, C. S.	*El Centro*	6
Brooks, E. R.	*Camino*	1
Brooks, H. T.	*Alhambra*	10
Brooks, LeR.	*San Francisco*	23
Bross, R. B.	*Los Angeles*	10
Broughton, G. A.	*Ventura*	37
Brown, A.	*San Francisco*	23
Brown, A. L.	*Riverside*	18
Brown, A. L.	*San Francisco*	23
Brown, B. H.	*San Ysidro*	22
Brown, B. P.	*Los Angeles*	10
Brown, C. M.	*Los Angeles*	10
Brown, C. W.	*San Diego*	22
Brown, D. F.	*Redwood City*	26
Brown, E. O.	*Sacramento*	19
Brown, F. A.	*Santa Ana*	16
Brown, F. A.	*Hayward*	1
Brown, G. D.	*Pomona*	10
Brown, G. W.	*Los Angeles*	10
Brown, H. A.	*Berkeley*	1
Brown, H. A.	*San Francisco*	23
Brown, H. C.	*San Jose*	28
Brown, H. V.	*Glendale*	10
Brown, J. M.	*Los Angeles*	10
Brown, J. R.	*Los Angeles*	10
Brown, M. H.	*Los Angeles*	10
Brown, N. N.	*Bakersfield*	7
Brown, P. K.	*San Francisco*	23
Brown, R.	*Santa Barbara*	27
Brown, R.	*San Francisco*	23
Brown, R. H.	*Pasadena*	10
Brown, T. H.	*Orland*	38
Brown, W. H.	*Palo Alto*	28
Browne, F. E.	*Los Angeles*	10
Browne, G. C.	*Oakland*	1
Brownfield, W. H.	*Los Angeles*	10
Browning, C. F.	*Los Angeles*	10
Brownlie, J. W.	*Vallejo*	32
Brownsberger, C. N.	*Glendale*	10
Bruck, E. L.	*San Francisco*	23
Bruckman, F. S.	*San Francisco*	23
Bruckman, H.	*San Jose*	28
Bruff, W. C.	*Whittier*	10
Bruin, M. R.	*Los Angeles*	10
Brull, A.	*Los Angeles*	10
Bruman, A. K.	*San Francisco*	23
Brumbaugh, D. H.	*Redlands*	21
Brumwell, D.	*King City*	14
Brunemeier, E. H.	*Placentia*	16
Brunie, L. J.	*Pasadena*	10
Brunie, Y. S.	*Pasadena*	10
Bruning, E. F.	*Santa Ana*	16
Brunn, H.	*San Francisco*	23
Brusco, H. D.	*San Francisco*	23
Brush, N. H.	*Santa Barbara*	27
Brust, P. R.	*San Diego*	22
Bryan, L.	*San Francisco*	23
Bryant, D. C.	*Claremont*	10
Bryant, H. E.	*Los Angeles*	10
Buchanan, R. A.	*Lodi*	24
Buck, L. W.	*Ross*	23
Buckell, A. E. T.	*Oakland*	1
Buckingham, J. R.	*Los Angeles*	10
Buckley, T. I.	*Oakland*	1
Budd, J. W., Jr.	*Los Angeles*	10
Budge, E. S.	*Los Angeles*	10
Bull, E. C.	*San Francisco*	23
Bullard, C. T.	*King City*	14
Bullis, J. A. E.	*Los Angeles*	10
Bullis, R. O.	*Los Angeles*	10
Bullitt, J. B.	*San Jose*	28
Bullock, A. S.	*Alhambra*	10
Bullock, L. T.	*Los Angeles*	10
Bulpitt, H. G.	*Santa Monica*	10
Blupitt, J. M.	*Santa Ana*	16
Bulpitt, P. A.	*Santa Monica*	10
Bulpitt, Z. E. N.	*Santa Ana*	16
Bulson, C. H.	*Napa*	15
Bumgarner, J. W.	*Richmond*	3
Bumpus, H. C.	*Pasadena*	10
Bumpus, L. D.	*Beverly Hills*	10
Bunnell, S.	*San Francisco*	23
Burbank, W. W.	*Long Beach*	10
Burby, J. J.	*San Bernardino*	21
Burchfiel, C. M.	*San Jose*	28
Burden, H. S.	*Sacramento*	19
Burg, B. V.	*Oakland*	1
Burge, M. H.	*Los Angeles*	10
Burger, F. A.	*El Centro*	6
Burger, T. O.	*San Diego*	22
Burk, C. E.	*Loma Linda*	21
Burke, A. M. B.	*Alameda*	1
Burke, D. V.	*Berkeley*	1
Burke, E. W.	*Redlands*	21
Burke, G. R.	*Alameda*	1
Burke, G. T.	*Pasadena*	10
Burkelman, A.	*Los Angeles*	10
Burkett, R. C.	*Napa*	10
Burkhard, W. G.	*San Francisco*	23
Burks, F. L. R.	*Fresno*	4
Burlew, J. M.	*Santa Ana*	16
Burlingame, R. W.	*San Francisco*	23
Burnett, C. I.	*Susanville*	9
Burnham, C. J.	*Berkeley*	1
Burnham, C. J., Jr.	*Berkeley*	1
Burnham, DeW. K.	*San Francisco*	23
Burnham, P. S.	*Los Angeles*	10
Burns, E. M.	*Huntington Park*	10
Burns, G. C.	*Huntington Park*	10
Burns, J. E.	*Huntington Park*	10
Burns, T. S.	*San Francisco*	23
Burnside, C.	*Hollywood*	10
Burrall, G. M.	*Los Angeles*	10
Burroughs, P. R.	*Santa Monica*	10
Burrows, C. A.	*Los Angeles*	10
Burrows, J. R.	*San Francisco*	23
Burrows, L. A.	*Los Angeles*	10
Burrows, M. T.	*Pasadena*	10
Bursell, A.	*Mountain View*	28
Burtness, H. I.	*Santa Barbara*	27
Burton, F. A.	*San Diego*	22
Burwell, L. C.	*Los Angeles*	10
Bush, H. C.	*Livermore*	1
Buskirk, W. H.	*Los Angeles*	10
Bussey, D. G.	*Avalon*	10
Butka, L. J.	*Alhambra*	10
Butler, E.	*San Francisco*	23
Butler, F. O.	*Eldridge*	33
Butler, J. B. V.	*San Luis Obispo*	25
Butler, K. W.	*Madera*	4
Butler, O. W.	*Los Angeles*	10
Butler, W. D.	*San Luis Obispo*	25
Butt, E. G.	*Redondo Beach*	10
Butt, E. M.	*Los Angeles*	10
Butterfield, A. DeF.	*National City*	22
Butterfield, E. R.	*Burbank*	10
Byers, W. M.	*Van Nuys*	10
Byington, P. C.	*Modesto*	34
Byron, R. L.	*Los Angeles*	10
Byron, W. P.	*Lemoore*	8

— C —

NAME	CITY	COUNTY SOCIETY NO.
Cady, D. W.	*Pasadena*	10
Cady, F. P.	*Los Angeles*	10
Cahen, C. G.	*Los Angeles*	10
Cahoon, G. W.	*Los Angeles*	10
Cain, E. F.	*Anaheim*	16
Cain, W. T.	*Gardena*	10
Calaway, A. A.	*Fresno*	4
*Calder, D. H.	*Los Angeles*	10
Caldwell, H. M.	*La Canada*	10
Calkins, J. W.	*Oakland*	1
Callander, C. L.	*San Francisco*	23
Callaway, A. A.	*Fresno*	4
Callaway, W. O.	*Burlingame*	26
Callison, F. W.	*San Francisco*	23
Calvin, G. F.	*Oakland*	1
Cameron, A. C.	*Los Angeles*	10
Cameron, L. C.	*Santa Ana*	16
Cameron, M. C.	*Los Angeles*	10
Cameron, N. W. A.	*Los Angeles*	10
Camp, J. W.	*La Habra*	16
Campbell, C. C.	*Long Beach*	10
Campbell, C. R.	*San Jose*	28
Campbell, D. McL.	*San Francisco*	23
Campbell, G. E.	*Pasadena*	10
Campbell, H. G.	*Lindsay*	36
Campbell, H. S.	*Los Angeles*	10
Campbell, J. R. U.	*Dunsmuir*	31
Campbell, J. V.	*Oakland*	1
Campbell, L. D.	*San Jose*	28
Campbell, LeR. S.	*Los Angeles*	10
Campbell, L. G.	*Pasadena*	10
Campbell, M.	*Los Angeles*	10
Campbell, M. P.	*San Francisco*	23
Campbell, R. A.	*Los Angeles*	10
Campiche, P. S.	*San Francisco*	23
Canby, C. B.	*Van Nuys*	10
Canelo, C. K.	*San Jose*	28
Canfield, M. C.	*El Centro*	6
Canfield, M. N.	*Redlands*	21
Cannon, F. M.	*San Rafael*	11
Cantoni, A. J.	*San Diego*	22
Card, T. A.	*Riverside*	18
Carden, J. J.	*San Francisco*	1
Carey, H. B.	*San Francisco*	23
Carey, T. S.	*Los Angeles*	10
Carey, W. W.	*Gridley*	2
Carhart, E. C.	*Hollywood*	10
Carlile, M. N.	*Lakeside*	22
Carlson, C. M.	*Santa Rosa*	33
Carlson, E.	*San Francisco*	23
Carlson, E. F.	*Fort Jones*	31
Carlson, F. J.	*Oakland*	1
Carmack, J. C.	*San Bernardino*	21
Carpenter, F. L.	*Berkeley*	1
Carpenter, H. C.	*Berkeley*	1
Carpenter, H. L.	*Richmond*	3
Carr, J. L.	*San Francisco*	23
Carroll, R. L.	*Los Angeles*	10
Carroll, W. A.	*San Francisco*	23
Carson, A. B.	*Oakland*	1
Carson, D. A.	*San Francisco*	23
Carson, G. R.	*San Francisco*	23
Carter, A. E.	*North Hollywood*	10
Carter, C. E.	*Pasadena*	9
Carter, F. H.	*San Diego*	22
Carter, J. M.	*San Francisco*	23
Carter, M. G.	*Los Angeles*	10
Carter, R. A.	*Los Angeles*	10
Carter, R. H.	*Fresno*	4
Carter, W. E.	*San Francisco*	1
Carter, W. N.	*Los Angeles*	10
Cartmell, T. M.	*Los Angeles*	10
Cartwright, E. W.	*Oceanside*	22
Caruso, T. D.	*Los Angeles*	10
Carver, W. F., Jr.	*Hollywood*	10
Cary, N. A.	*Berkeley*	1
Cary, R. J.	*Long Beach*	10
Cary, W. S.	*San Francisco*	23
Case, C. E.	*Santa Maria*	27
Case, L. W.	*Pomona*	10
Casey, H. A.	*Oakland*	1
Casey, T. J.	*Oakland*	1
Caskey, C. R.	*Los Angeles*	10
Cass, D.	*Los Angeles*	10
Cassady, E. S.	*San Pedro*	10
Cassell, I.	*San Jose*	28
Castlehun, P.	*San Francisco*	23
Cates, H. B.	*Los Angeles*	10
Catton, J.	*San Francisco*	23
Cavanaugh, L. A.	*Santa Barbara*	27
Cecil, A. B.	*Los Angeles*	10
Cecil, J. J.	*Patton*	21
Cerf, A. E.	*San Francisco*	23
Chabanoff, E.	*San Francisco*	23
Chaffee, B. S.	*Long Beach*	10
Chaffin, G. L.	*Los Angeles*	10
Chaffin, R. C.	*Los Angeles*	10
Chaimov, A. S.	*San Francisco*	23
Chain, J. N.	*Eureka*	5
Chalmers, J. F.	*La Jolla*	22
Chaloupka, H. R.	*Los Angeles*	10
Chamberlain, B. H.	*Alhambra*	10
Chamberlain, G. L.	*Oakland*	1
Chamberlain, W. E.	*Philadelphia, Pennsylvania*	23
Chamberlin, H. H.	*Glendora*	10
Chambers, S. O.	*Los Angeles*	10
Chamlee, W. F.	*Hanford*	8
Champion, J. A.	*Colton*	21
Chandler, L. R.	*San Francisco*	23
Chaney, L. A.	*Los Angeles*	10
Chang, D. K.	*San Francisco*	23
Channell, W. L.	*Oakland*	1
Chapline, F. L.	*Orange*	16
Chapman, G. E.	*San Francisco*	23
Chapman, H. S.	*Stockton*	24
Chapman, J. F.	*Pasadena*	10
Chapman, J. L.	*Los Angeles*	10
Chapman, L. E.	*Gerber*	35
Chapman, L. S.	*Los Angeles*	10
Chapman, W. H.	*Blythe*	18
Chappell, A. E.	*Vallejo*	32
Chappell, G. E.	*Sacramento*	19
Chappell, H. W.	*Los Angeles*	10
Charlesworth, I. E.	*Imola*	15
Charlton, A. T.	*Whittier*	10
Charlton, C. F.	*Pasadena*	10
Charmack, D. D.	*San Francisco*	23
Charnock, D. A.	*Los Angeles*	10
Chase, A. E.	*Santa Ana*	16
Chase, A. S.	*Los Angeles*	10
Chase, F. H.	*Los Angeles*	10
Chase, R. E.	*Glendale*	10
Chavez, M.	*Los Angeles*	10
Cheney, G.	*San Francisco*	23
Cheney, L. D.	*Los Angeles*	10
Cheney, M. C.	*Berkeley*	1
Cheney, W. F.	*San Francisco*	23
Cherry, C. F.	*Los Angeles*	10
Cherry, W. S.	*Rialto*	21
Chesbro, E. J.	*Gilroy*	28
Chessman, F. N.	*Los Angeles*	10
Chiapella, J. O.	*Chico*	2
Chidester, W. C.	*San Mateo*	26
Childress, M. H.	*Ione*	19
Childrey, J. H.	*Santa Barbara*	27
Chilton, F. N.	*San Jose*	28
Ching, P. S.	*Fresno*	4
Chipman, E. D.	*San Francisco*	23
Chipman, W. D.	*Los Angeles*	10
Chouret, E. E.	*Riverbank*	34
Christensen, A. C.	*Glendale*	10
Christensen, E. L.	*Los Angeles*	10
Christensen, G. E.	*Los Angeles*	10
Christensen, W.	*Los Angeles*	10
Christensen, W. M.	*Eagle Rock*	10
Christierson, S. von	*San Francisco*	23
Christman, P. W.	*Sacramento*	19

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Church, C. H.,	*Berkeley*	1
Church, I. O.,	*Oakland*	1
Churchill, A. G.,	*Coronado*	22
Churchill, J. F.,	*San Diego*	22
Cieri, S.,	*Oakland*	1
Cilley, H. A.,	*San Jose*	28
Citron, J. W.,	*Oakland*	1
Clark, C. W.,	*San Rafael*	11
Clark, D. G.,	*Santa Paula*	37
Clark, D. M.,	*Santa Barbara*	27
Clark, E. B.,	*Stanford University*	28
Clark, E. P.,	*Los Angeles*	10
Clark, F. A.,	*Riverside*	18
Clark, G. S.,	*Los Angeles*	10
Clark, I. S.,	*Long Beach*	10
Clark, J. I.,	*Santa Ana*	16
Clark, J. W.,	*Santa Rosa*	33
Clark, L. J.,	*Hemet*	18
Clark, M. F.,	*San Francisco*	1
Clark, T. J.,	*Oakland*	1
Clark, W. A.,	*Pasadena*	10
Clark, W. F.,	*Los Angeles*	10
Clark, W. R. P.,	*San Francisco*	23
Clark, W. S.,	*Ventura*	37
Clarke, A. F.,	*Oakland*	1
Clarke, F. B.,	*Long Beach*	10
Clarke, R. M.,	*Los Angeles*	10
Clarke, W. T.,	*Los Angeles*	10
Clay, H. E.,	*San Francisco*	23
Clayton, J. H.,	*Los Angeles*	10
Cleary, E. W.,	*San Francisco*	23
Cleary, G. G.,	*San Francisco*	23
Cleave, D. C.,	*San Francisco*	23
Clecak, N. J.,	*Oakland*	1
Cleeves, M.,	*La Crescenta*	10
Clemmer, C. V.,	*San Marino*	10
Clemons, E. J.,	*Los Angeles*	10
Cline, J. W.,	*San Francisco*	23
Clock, C. J.,	*Redlands*	21
Close, F. M.,	*San Francisco*	23
Clough, F. E.,	*San Bernardino*	21
Clough, V. R.,	*Long Beach*	10
Coate, C. R.,	*Whittier*	10
Coate, J. D.,	*Oakland*	1
Coates, G. L., Jr.,	*Martinez*	3
Coblentz, L. B.,	*San Francisco*	23
Coblentz, Z. B.,	*San Francisco*	23
Cochran, G. H.,	*Los Angeles*	10
Cochran, G. V.,	*Oakland*	1
Cochran, R. C.,	*Yorba Linda*	16
Cocks, C. E.,	*Oakland*	1
Coe, H. C.,	*Oakland*	1
Coeur-Barron, F. H.,	*Los Angeles*	10
Coffey, E. C.,	*Orland*	38
Coffey, G. C.,	*Ventura*	37
Coffey, S. E.,	*Orland*	38
Coffey, W. B.,	*San Francisco*	23
Coffin, H. W.,	*Los Angeles*	10
Coghlan, C. C.,	*Los Angeles*	10
Cohen, M.,	*San Francisco*	23
Cohn, A. L.,	*San Francisco*	23
Cohn, H. J.,	*San Francisco*	23
Cohn, J.,	*Los Angeles*	10
Cohn, M. L.,	*San Francisco*	23
Colburn, J. M.,	*Riverside*	18
Colby, E. G.,	*San Diego*	22
Cole, E. R.,	*Selma*	31
Cole, G. L.,	*Los Angeles*	10
Cole, W.,	*Long Beach*	10
Coleman, B. E.,	*Los Angeles*	10
Coleman, D. D.,	*Alhambra*	10
Coller, G. J.,	*Los Angeles*	10
Collings, H. A.,	*Susanville*	9
Collins, A. W.,	*San Francisco*	23
Collins, C. D.,	*Fresno*	4
Collins, D. C.,	*Los Angeles*	10
Collins, F. K.,	*Los Angeles*	10
Collins, J. L.,	*Turlock*	34
Collins, M. C.,	*Turlock*	34
Collis, W. H. L.,	*Stockton*	24
Collischonn, P.,	*San Francisco*	23
Colver, B. N.,	*Glendale*	10
Comfort, H. W.,	*Fortuna*	5
Commons, E. L.,	*Los Angeles*	10
Compton, C. S.,	*Bakersfield*	7
Comstock, B. W.,	*Los Angeles*	10
Comstock, D. D.,	*Los Angeles*	10
Condit, J. C.,	*Oakland*	1
Condit, J. D.,	*Pasadena*	10
Congdon, W. R.,	*Santa Cruz*	29
Conklin, C. M.,	*Glendale*	10
Conlan, F. J. S.,	*San Francisco*	23
Conlan, P. T.,	*Los Angeles*	10
Conn, C. E.,	*Los Angeles*	10
Connell, DeB. W.,	*Berkeley*	1
Connell, J. A.,	*Riverside*	18
Conner, A. W.,	*San Jose*	28
Connor, C. L.,	*San Francisco*	23
Conroy, B. J.,	*Fairfax*	11
Conroy, T. F.,	*Palo Alto*	28
Conser, W. H.,	*Guadalupe*	27
Conzelmann, F. J.,	*Stockton*	24
Coodley, O.,	*Los Angeles*	10
Cook, C. S.,	*Los Angeles*	10
Cook, C. W.,	*Los Angeles*	10
Cook, E. D.,	*Azusa*	10
Cook, E. F.,	*Los Angeles*	10
Cook, E. J.,	*Los Angeles*	10
Cook, E. P.,	*San Jose*	28
Cook, J. D.,	*Olive View*	10
Cook, O. S.,	*Sacramento*	19
Cook, W. C.,	*Los Angeles*	10
Cook, W. P.,	*Los Angeles*	10
Cooke, A. B.,	*Los Angeles*	10
Cooke, W. C.,	*San Diego*	22
Cooley, C. L.,	*San Francisco*	23
Coon, G. W.,	*Riverside*	18
Cooper, A. J.,	*San Diego*	22
Cooper, C. M.,	*San Francisco*	23
Cooper, F. G.,	*Huntington Park*	10
Cooper, G. P.,	*Angels Camp*	24
Cooper, J. A.,	*Modesto*	34
Cooper, T. E.,	*Davis*	38
Cooper, W.,	*Palo Alto*	28
Corbin, D. E.,	*San Diego*	22
Cordes, F. C.,	*San Francisco*	23
Cornell, H. D.,	*San Diego*	22
Corneille, J. G.,	*Berkeley*	1
Cornett, W. F.,	*Pasadena*	10
Corr, W. P.,	*Riverside*	18
Cortright, C. B.,	*Berkeley*	1
Cosgrove, C. P.,	*Los Angeles*	10
Cosgrove, J. B.,	*Los Angeles*	10
Coshow, G. H.,	*Carpinteria*	27
Costolow, W. E.,	*Los Angeles*	10
Cottle, C. C.,	*Los Angeles*	10
Cottrell, C. C.,	*Scotia*	5
Cottrell, E. L.,	*San Jose*	28
Cottrell, J. C.,	*Long Beach*	10
Couey, E. J.,	*Fresno*	4
Coughlin, J. H.,	*San Bernardino*	21
Coulter, H. M.,	*South Pasadena*	10
Coulter, J. D.,	*Portola*	8
Counter, C. E.,	*Loma Linda*	21
Counter, H. M.,	*Buena Park*	16
Courville, C. B.,	*Los Angeles*	10
Cowan, A. B.,	*Fresno*	4
Cowgill, C. H.,	*Huntington Park*	10
Cowin, C. C.,	*Hollywood*	10
Cowles, D. C.,	*Fullerton*	16
Cox, B. E.,	*Coalinga*	4
Cox, E. R.,	*Los Angeles*	10
Cox, F. J.,	*Placerville*	19
Cox, G. W.,	*San Francisco*	23
Cox, J. E.,	*Coalinga*	4
Cox, T. J.,	*San Francisco*	23
Cox, W. J.,	*San Francisco*	23
Coyle, J. D., Jr.,	*Sacramento*	19
Coyne, A. E.,	*Los Angeles*	10
Crabtree, E. G.,	*San Diego*	22
Crabtree, E. H.,	*San Diego*	22
Crabtree, W. C.,	*San Diego*	22
Craft, E. D.,	*Los Angeles*	10
Crahan, M. E.,	*Los Angeles*	10
Craig, C. A.,	*Lakeport*	12
Craig, J. B.,	*Uplands*	21
Craig, L. G.,	*Pasadena*	10
Craig, R. G.,	*San Francisco*	23
Craig, S. A.,	*Ontario*	21
Craik, C. W.,	*Venice*	10
Crandall, F. G.,	*Santa Monica*	10
Crane, C. C.,	*San Francisco*	23
Crane, E. H.,	*Inglewood*	10
Crane, H. W.,	*Berkeley*	1
Crane, J. J.,	*Los Angeles*	10
Crane, W. R.,	*Los Angeles*	10
Crane, W. W.,	*Oakland*	1
Craven, L. L.,	*Glendale*	10
Craviotto, J. V.,	*Stockton*	24
Crawford, J. W.,	*San Francisco*	23
Crawford, W. W.,	*San Diego*	22
Crawshaw, J. A.,	*Hanford*	9
Crease, F. J.,	*Bakersfield*	16
Crease, H. G.,	*Bakersfield*	7
Cress, W. W.,	*Sacramento*	19
Cressman, R. G.,	*Stockton*	24
Cresson, M.,	*Cincinnati, Ohio*	27
Crew, D. A.,	*San Luis Obispo*	25
Criley, C. H.,	*Los Angeles*	10
Crisp, N. J.,	*Benicia*	32
Crispin, E. L.,	*Los Angeles*	10
Crockett, H. C.,	*Hayward*	1
Croft, L. E.,	*Ocean Park*	10
Cronan, L. A.,	*Davis*	38
Cronemiller, R. E.,	*Exeter*	36
Crooks, S. A.,	*Loma Linda*	21
Crosby, D.,	*Oakland*	1
Cross, W. W.,	*Oakland*	1
Crossan, J. W.,	*Los Angeles*	10
Crossen, A. S.,	*Weimar*	17
Crow, L. B.,	*San Francisco*	23
Crowe, H. E.,	*Los Angeles*	10
Crowe, J. A.,	*San Francisco*	23
Crowl, V. C.,	*Huntington Park*	10
Crowley, E.,	*Santa Maria*	27
Crozier, H. C.,	*Los Angeles*	10
Cruikshank, G. H.,	*San Diego*	22
Crum, H. C.,	*Alameda*	1
Crum, R. A.,	*Oakland*	1
Crusan, R. E.,	*Monrovia*	10
Cryst, J. H.,	*Los Angeles*	10
Cummings, R. A.,	*Los Angeles*	10
Cummings, R. S.,	*Los Angeles*	10
Cummins, F. A.,	*Los Angeles*	10
Cuneo, J. C.,	*San Jose*	28
Cuneo, P. J.,	*Bakersfield*	7
Cunha, F.,	*San Francisco*	23
Cunnane, P. J.,	*Los Angeles*	10
Cunnane, T. B.,	*Los Angeles*	10
Cunningham, R. L.,	*Los Angeles*	10
Cunningham, R. L.,	*Berkeley*	1
Cunningham, T. M.,	*La Mesa*	22
Cunningham, T. T.,	*Huntington P'k*	10
Curdts, C. E.,	*Oakland*	1
Currey, H. M.,	*Santa Ana*	16
Currie, A. H.,	*Los Angeles*	10
Curtis, C. G.,	*Brea*	16
Curtis, L. E.,	*Isleton*	19
Cushman, G. F.,	*San Francisco*	23
Cushman, R. A.,	*Talmage*	12
Custer, L. R.,	*San Francisco*	23
Cutler, O. I.,	*Loma Linda*	21
Cutter, R. K.,	*Berkeley*	1
Cutting, J. A.,	*Agnew*	28

— D —

NAME	CITY	COUNTY SOCIETY NO.
Dabney, T. G.,	*San Francisco*	1
Dahleen, H. E.,	*San Jose*	28
Dahlgren, R. W.,	*Fresno*	4
Dailey, W. J.,	*Oakland*	1
Daily, K.,	*Richmond*	3
Dakin, W. B.,	*Los Angeles*	10
Dale, C. L.,	*Loma Linda*	21
Dale, M. B.,	*Pasadena*	10
d'Alessio, J. A.,	*Santa Barbara*	27
Dallas, D. A.,	*San Francisco*	23
Daly, L. E.,	*Needles*	21
Dameron, J. D.,	*Stockton*	24
Daniel, W. H.,	*Los Angeles*	10
Darling, H. H.,	*San Francisco*	23
Dart, A. E.,	*Oakland*	1
Dashiell, W. A.,	*Los Angeles*	10
Dasse, H. W.,	*Los Angeles*	10
Dau, N. J.,	*Fresno*	4
Davenport, J. D.,	*Los Angeles*	10
David, R. A.,	*Los Angeles*	10
Davis, A. D.,	*San Francisco*	23
Davis, A. S.,	*Oakland*	1
Davis, E. A.,	*San Francisco*	23
Davis, F. J.,	*Westwood*	9
Davis, F. J., Jr.,	*Westwood*	9
Davis, H. C.,	*San Francisco*	23
Davis, H. H.,	*El Segundo*	10
Davis, H. J.,	*Sacramento*	19
Davis, H. L.,	*Huntington Park*	10
Davis, H. W.,	*San Francisco*	23
Davis, K. S.,	*Los Angeles*	10
Davis, S. S.,	*Oakland*	1
Davison, C. L.,	*Los Angeles*	10
Davison, S. T.,	*San Francisco*	23
Davitt, G. G.,	*Los Angeles*	10
Davlin, L. P.,	*Gonzales*	14
Davy, D. G.,	*San Francisco*	23
Dawson, G. I.,	*Napa*	15
Day, E. C.,	*Laguna Beach*	16
Day, P. W.,	*Repressa*	19
Day, R. V.,	*Los Angeles*	10
Dayton, G. O.,	*Los Angeles*	10
Dazey, G. K.,	*Santa Monica*	10
Deacon, G.,	*Pasadena*	10
Deamer, W. C.,	*San Francisco*	23
Deane, L. C.,	*San Francisco*	23
Dearing, B. F.,	*San Francisco*	23
Dearborn, R. R.,	*Madera*	3
de Campos, P. do A. R.,	*Hanford*	8
de Carle, D. W.,	*San Francisco*	23
Decker, C. W.,	*Los Angeles*	10
Decker, R. M.,	*Pasadena*	10
Deering, W. E.,	*Hollywood*	10
Delamere, G. S.,	*Marysville*	39
DeLancey, C. A.,	*San Rafael*	11
DeLappe, F. R.,	*Modesto*	34
De Long, E. W.,	*Los Angeles*	10
Delprat, G. D., Jr.,	*San Francisco*	23
Delprat, J. L. P.,	*San Francisco*	23
Dement, D. E.,	*Los Angeles*	10
Dempsey, R. B.,	*Vallejo*	32
Denman, C. H.,	*Berkeley*	1
Dennis, H. O.,	*Beverly Hills*	10
Denton, W. L.,	*Trona*	21
DePuy, C. A.,	*Oakland*	1
Derrick, J. S.,	*Los Angeles*	10
Desch, W. D.,	*Oakland*	1
Desimone, L. O.,	*Los Angeles*	10
Desmond, M. A.,	*Santa Monica*	10
Desrosier, G. W.,	*Colusa*	38
Desser, A. L.,	*Los Angeles*	10
Detling, F. E.,	*Los Angeles*	10
De Vaul, C. H.,	*Oakland*	1
Devin, S. B.,	*Los Angeles*	10
Dewey, E. B.,	*Pasadena*	10
Dewey, E. T.,	*San Francisco*	23
Dewey, H. G.,	*Yosemite*	13
Dick, P. J.,	*Oakland*	1
Dickerson, D. G.,	*Los Angeles*	10
Dickerson, H. W.,	*San Diego*	22
Dickey, C. A.,	*San Francisco*	23
Dickey, C. D., Jr.,	*Los Angeles*	10
Dickie, W. M.,	*Berkeley*	1
Dickinson, A. E.,	*Los Gatos*	28
Dickinson, C. C.,	*McCloud*	31
Dickson, E. C.,	*San Francisco*	23
Didier, F. W.,	*Wheatland*	39
Diederich, O. P.,	*Fresno*	4
Diefenbach, W. E.,	*La Jolla*	22
Dieffenbacher, P. F.,	*Jamestown*	24
Diepenbrock, A. B.,	*San Francisco*	23

NAME	CITY	COUNTY SOCIETY NO.
Dieterle, K. L.	*Los Angeles*	10
Dietrich, H.	*Los Angeles*	10
Dietz, H. L.	*Oakland*	1
Diggs, C. S.	*Los Angeles*	10
Dignan, H. H.	*San Francisco*	23
Dillingham, F. S.	*Los Angeles*	10
Dillon, E. T.	*Los Angeles*	10
Dillon, J. R.	*San Francisco*	23
Dillon, V. M.	*San Francisco*	23
Diven, G. R.	*Los Angeles*	10
Dixon, H. L.	*Southgate*	10
Dixon, H. B.	*San Francisco*	23
Doane, B. L.	*Pasadena*	10
Doane, F. L.	*Red Bluff*	35
Doane, P. S.	*Pasadena*	10
Dock, G.	*Pasadena*	10
Dock, W.	*San Francisco*	23
Dockweiler, R. R.	*Los Angeles*	10
Dodge, D. R., Jr.	*Los Angeles*	10
Dodge, W.	*Los Angeles*	10
Doehring, C. F.	*Pasadena*	10
Dolan, P. E.	*Livermore*	1
Dole, K. L.	*Redlands*	21
Dolley, F. S.	*Los Angeles*	10
Domann, A. H.	*Orange*	16
Donald, W. G.	*Berkeley*	1
Donoher, W. D.	*Los Angeles*	10
Donohoe, E. C.	*Glendale*	10
Donovan, M.	*San Francisco*	23
Dooley, J. B.	*Compton*	10
Doran, A. V.	*Vallejo*	32
Dorius, G. R.	*Oakland*	1
Dormody, H. F.	*Monterey*	14
Dormody, H. L.	*Monterey*	14
Dorr, W. R.	*Arlington*	18
Dougall, J. P.	*Los Angeles*	10
Dougan, S.	*San Jose*	28
Dougherty, E. E.	*Los Angeles*	10
Dougherty, J. A.	*Oakland*	1
Dougherty, P. S.	*Los Angeles*	10
Doughty, J. F.	*Tracy*	24
Dow, J. N.	*Los Angeles*	10
Dowd, R. E.	*San Bernardino*	21
Dowling, S. W.	*Santa Cruz*	29
Downing, S. R.	*Oakland*	1
Downs, A. J.	*Los Angeles*	10
Downs, L.	*Hollywood*	10
Doyle, G. P.	*Berkeley*	1
Doyle, J. B.	*Los Angeles*	10
Doyle, J. C.	*Los Angeles*	10
Doyle, J. J. L.	*Chico*	2
Doyle, O. B.	*Fresno*	4
Dozier, D. F.	*Sacramento*	19
Dozier, E.	*Redding*	30
Dozier, E. G.	*San Fernando*	10
Dozier, L.	*Stockton*	24
Dozier, T. J.	*Antioch*	3
Drace, C. G.	*Ojai*	37
Dragoo, S. V.	*Avenal*	8
Drake, D. D.	*San Francisco*	23
Drake, J. C.	*Kerman*	4
Draper, D. B.	*San Jose*	28
Drees, L. A.	*San Francisco*	23
Drennan, P. G.	*Oakland*	1
Dresel, R. L.	*San Francisco*	23
Drucks, E. S.	*Oakland*	1
Drummond, T. A.	*Randsburg*	21
Dryden, F. M.	*Pasadena*	10
Dryer, D. S.	*Los Angeles*	10
Dryer, R. G.	*Los Angeles*	10
Dryfoos, H. L.	*San Francisco*	23
DuBois, C. W.	*Los Angeles*	10
Dubois, W. C.	*Santa Ana*	16
Dudley, H. W.	*San Rafael*	11
Dufficy, G. W.	*Sacramento*	19
Duffield, W.	*Los Angeles*	10
Duggan, H.	*San Francisco*	23
Dukes, C. A.	*Oakland*	1
Dunbar, W. V.	*San Pedro*	10
Duncan, J. A.	*Marysville*	39
Duncan, M. V.	*Lompoc*	27
Duncan, R. A.	*Placentia*	16
Duncan, R. D.	*Los Angeles*	10
Duncan, W. C.	*Los Angeles*	10
Dundas, R. C.	*Los Angeles*	10
Dunievitz, M.	*Auburn*	17
Dunklee, G. K.	*San Luis Obispo*	25
Dunlap, A. K.	*Sacramento*	19
Dunlap, F. C.	*Brawley*	6
Dunlop, J.	*Pasadena*	10
Dunn, R. H.	*San Francisco*	23
Dunne, N. P.	*Oakland*	1
Dupuich, L. R.	*Oakland*	1
Durgin, R. M.	*Berkeley*	1
Durr, S. A.	*San Diego*	22
Dutton, M. L.	*San Francisco*	23
Duvall, E. M.	*Long Beach*	10
Dye, W. G.	*Los Angeles*	10
Dyke, L. H.	*Oakland*	1
Dykes, H. R.	*Taft*	7
Dyment, B. S.	*Stanford University*	28
Dysart, B. R.	*Pasadena*	10

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NAME	CITY	COUNTY SOCIETY NO.
Eager, B. F.	*San Diego*	22
Eakin, M. A.	*Fresno*	4
Earel, F.	*Santa Ana*	16
Earl, H. D.	*San Pedro*	10
Earle, L. M.	*Los Angeles*	10
Early, C. E.	*Los Angeles*	10
Earwood, E. R.	*Los Angeles*	10
Eastman, B. R.	*Pasadena*	10
Eastman, W. R.	*La Jolla*	22
Eaton, H. D.	*Los Angeles*	10
Eaton, J. L.	*Berkeley*	1
Eaton, W. H.	*Santa Barbara*	27
Eaves, J.	*Oakland*	1
Eberhardt, G.	*Gonzales*	14
Ebright, G. E.	*San Francisco*	23
Eckerle, W. J.	*Wilmington*	10
Eddy, I. H.	*Glendale*	10
Eder, H. L.	*Santa Barbara*	27
Eder, L. F.	*Santa Barbara*	27
Edgerton, A. E.	*San Francisco*	23
Edler, W.	*Pasadena*	10
Edmonds, F. W.	*Oakland*	1
Edson, P. J.	*Pasadena*	10
Edward, J. T.	*Pasadena*	10
Edwards, F. A.	*Los Angeles*	10
Edwards, H. W.	*Los Angeles*	10
Edwards, J. C.	*Berkeley*	1
Edwards, M. E.	*San Francisco*	23
Edwards, W. M.	*San Rafael*	11
Ehlers, E. C.	*Loma Linda*	21
Ehlers, H.	*Fowler*	4
Ehrenclou, O. N.	*San Francisco*	23
Ehrke, A. A.	*Compton*	10
Eidenmuller, W. C., Jr.	*San Francisco*	23
Eisen, E. G.	*Los Angeles*	10
Eiskamp, E. H.	*Watsonville*	29
Elkins, D. L.	*Long Beach*	10
Ellefson, O. D.	*Hughson*	34
Elliot, A. H., Jr.	*Santa Barbara*	27
Elliott, A. L.	*Berkeley*	1
Elliott, F. P.	*San Diego*	22
Ellis, E. D.	*Altadena*	10
Ellis, G.	*Berkeley*	1
Ellis, H. O.	*Chico*	2
Ellis, J. A.	*Alameda*	1
Ellis, L. T.	*Los Angeles*	10
Ellis, L. W.	*Los Angeles*	10
Ellsworth, A. B.	*Long Beach*	10
Ellwood, P. M.	*Oakland*	1
Eloesser, L.	*San Francisco*	23
Ely, L. W.	*San Francisco*	28
Emerson, C. V.	*Los Angeles*	10
Emerson, M. L.	*Oakland*	1
Emery, C. E.	*San Francisco*	23
Emery, C. K.	*Los Angeles*	10
Emge, L. A.	*San Francisco*	23
Emmons, C. L.	*Ontario*	21
Empey, L. W.	*Roseville*	17
Emrick, E. L.	*Venice*	24
Ende, F. M.	*Hollywood*	10
Endres, W. J.	*Los Angeles*	10
Eneboe, J. B.	*San Diego*	22
Engel, E. E.	*San Bernardino*	21
Engelman, W. T.	*San Bernardino*	21
Engle, H. M.	*San Francisco*	23
English, C. F.	*Stockton*	24
English, G. G.	*Hollywood*	10
Enloe, N. T.	*Chico*	2
Enos, J. B.	*Oakland*	1
Enos, M. M.	*Oakland*	1
Epsteen, A.	*San Francisco*	23
Epstein, A. I.	*Los Angeles*	10
Epstein, N. N.	*San Francisco*	23
Erkenbeck, J. W.	*San Diego*	22
Erlanger, V. J.	*San Diego*	22
Ernsberger, G. H.	*Covina*	10
Escamilla, R. F.	*San Francisco*	23
Eshman, L. A.	*Los Angeles*	10
Eshoo, D.	*Los Angeles*	10
Etter, O. R.	*Oakland*	1
Eusden, R. B.	*Long Beach*	10
Evans, H. R.	*Los Angeles*	21
Evans, J. H.	*Highland*	21
Evans, L. M.	*Pasadena*	10
Evans, N. G.	*S. Pasadena*	10
Evans, R. D.	*Santa Barbara*	27
Evans, V. L.	*San Luis Obispo*	25
Eveleth, R. H.	*Roseville*	17
Everingham, S.	*Oakland*	1
Every, H. M.	*Petaluma*	33
Ewer, E. N.	*Oakland*	1
Ewer, J. N.	*Oakland*	1
Ewing, F. E.	*Oakland*	1
Exelby, P. B.	*Los Angeles*	10
Eymundson, K. S.	*San Francisco*	23
*Eytinge, E. J.	*Redlands*	21

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NAME	CITY	COUNTY SOCIETY NO.
Faber, H. K.	*San Francisco*	23
Fabian, J. P.	*Chico*	2
Facey, F. D.	*San Fernando*	10
Fagan, R. H.	*Los Angeles*	10
Fagerstrom, D. P.	*San Jose*	28
Fairchild, A.	*Lancaster*	10
Fairchild, C. H.	*Woodland*	38
Fairchild, F. R.	*Woodland*	38
Fairchild, L. H.	*Carlsbad*	22
Falconer, E. H.	*San Francisco*	23
Falconer, F. H.	*Los Angeles*	10
Falconer, R. A.	*Los Angeles*	10
Falk, C. C.	*Eureka*	5
Falk, C. C., Jr.	*Eureka*	5
Falk, C. L.	*Eureka*	5
Falk, E. V.	*Modesto*	34
Fallas, R. E.	*Los Angeles*	10
Fanning, J. L.	*Sacramento*	19
Fanson, E.	*Pasadena*	10
Faris, H. S.	*Riverside*	18
Farman, G. F.	*Los Angeles*	10
Farmer, J. L.	*San Diego*	22
Farmer, L. E.	*Folsom City*	19
Farnham, R. M.	*Glendale*	10
Farnsworth, T. K.	*Long Beach*	10
Farr, W. H.	*Salinas*	14
Farrage, J.	*Santa Ana*	16
Farrell, J. W.	*Los Angeles*	10
Farrell, L. W.	*Sacramento*	19
Fate, M. W.	*Los Angeles*	10
Fate, W. A.	*Los Angeles*	10
Faulkner, E. C.	*Rio Vista*	32
Faulkner, J. L.	*Red Bluff*	35
Faulkner, W. B., Jr.	*San Francisco*	23
Fay, J.	*San Francisco*	23
Fearn, J. R.	*Oakland*	1
Fearon, W. M.	*Los Angeles*	10
Feeley, M. A.	*San Francisco*	23
Fehliman, W. E.	*Santa Cruz*	29
Fehrensen, G.	*Inglewood*	10
Feinberg, H.	*San Francisco*	23
Feingold, B. F.	*Los Angeles*	10
Felberbaum, W.	*Santa Paula*	37
Feldman, C.	*Maywood*	10
Feldman, J. F.	*Los Angeles*	10
Felger, L.	*Los Angeles*	10
Fellows, F. D.	*San Francisco*	23
Felps, H. E.	*Riverside*	18
Felsenthal, L.	*Los Angeles*	10
Felt, F. R.	*Ocean Beach*	22
Fenton, W. W.	*San Bernardino*	21
Ferguson, C. J.	*Los Angeles*	10
Ferguson, R. A.	*Los Angeles*	10
Fernandez, M. L.	*Pinole*	3
Fernish, C. A.	*Santa Clara*	28
Ferrante, A. A.	*San Francisco*	23
Ferrier, P. A.	*Pasadena*	10
Ferry, F. C.	*Los Angeles*	10
Fetter, E. M.	*San Diego*	22
Fiegel, F. X.	*San Bernardino*	21
Field, A. M.	*Patterson*	34
Fielding, G. A.	*Brentwood Heights*	10
Fieseler, W. R.	*Los Angeles*	10
Filipello, E. A.	*San Jose*	28
Fillmore, J. R.	*Strathmore*	36
Finan, A. P.	*Suisun*	32
Finch, W. C.	*Los Angeles*	10
Findlay, H. V.	*Santa Barbara*	27
Fine, I. A.	*Los Angeles*	10
Finkelberg, I. L.	*San Bernardino*	21
Finnerty, E. J.	*Sonoma*	33
Finsand, V.	*San Francisco*	23
Firestone, F.	*San Francisco*	23
Fischer, S. S.	*Oakland*	1
Fish, E. S.	*Los Angeles*	10
Fish, L. W.	*Los Angeles*	10
Fishbaugh, E. C.	*Los Angeles*	10
Fishbon, H. M.	*San Francisco*	23
Fisher, A. L.	*San Francisco*	23
Fisher, C.	*Los Angeles*	10
Fisher, C. A.	*Los Angeles*	10
Fisher, R. E.	*Pomona*	10
Fisher, R. H.	*Oakland*	1
Fisher, V. L.	*Long Beach*	10
Fisher, W. L.	*Pomona*	10
Fist, H. S.	*Los Angeles*	10
Fitzgerald, J. J.	*Richmond*	3
Fitzgerald, W. W.	*Stockton*	24
Fitzgibbon, C. C.	*Merced Falls*	13
Fitzpatrick, E. B.	*Martinez*	3
Flamson, R. J.	*Los Angeles*	10
Flatley, M.	*Weimar*	17
Fleisher, A. J.	*Berkeley*	1
Fleissner, C. M.	*Santa Rosa*	33
Fleming, E. W.	*Los Angeles*	10
Fleming, H. W.	*San Francisco*	23
Fleming, L. P.	*Sanger*	4
Flesher, R. E.	*Gardena*	10
Fletcher, C. D.	*San Francisco*	23
Fletcher, E. G.	*Oakland*	1
Fletcher, H. A.	*San Francisco*	23
Fletcher, R.	*San Francisco*	23
Flewelling, L. M.	*Glendale*	10
Flitcroft, L. M. I.	*Sacramento*	19
Floersheim, S.	*Los Angeles*	10
Flood, R. G.	*San Francisco*	23
Floreth, O. P.	*Dixon*	32
Flower, K. C.	*Venice*	10
Fluhmann, C. F.	*San Francisco*	23
Foard, F. T.	*Charleston, W. Va.*	27
Fogel, E. T.	*Los Angeles*	10
Fogg, E. S.	*Wasco*	7
Folkins, F. H.	*Redlands*	21
Folte, A. G.	*San Francisco*	23
Foord, A. G.	*Pasadena*	10
Foote, F. S.	*San Francisco*	23
Forbes, H. J.	*Pasadena*	10
Forcade, W. P.	*Corona*	18
Ford, H. G.	*Richmond*	3

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Ford, R. A.,	*Los Angeles*	10
Foree, L.,	*Oakland*	1
Fornoff, H. S.,	*Oakland*	1
Forsythe, J. S.,	*San Bernardino*	21
Fortier, R. M.,	*Salinas*	14
Fortson, G. R.,	*Susanville*	9
Foshay, A. W.,	*Oakland*	1
Foster, A. H.,	*Brawley*	6
Foster, C. A.,	*Los Angeles*	10
Foster, E. C.,	*Hanford*	8
Foster, G. A.,	*Sacramento*	19
Foster, H. E.,	*Berkeley*	1
Foster, J. G.,	*Los Angeles*	10
Fouch, F. L.,	*San Francisco*	23
Foulks, C. A.,	*Long Beach*	10
Fountain, E. R.,	*Merced*	13
Fowler, C. B.,	*Oakland*	1
Fowler, D. C.,	*Mill Valley*	11
Fowler, G. W. J.,	*Santa Clara*	28
Fowler, H. L.,	*Los Angeles*	10
Fox, C. M.,	*San Diego*	22
Fox, D. S.,	*Berkeley*	1
Fox, H. W.,	*Tulare*	36
Fox, L. H.,	*Bakersfield*	7
Frame, P. W.,	*Elk Grove*	19
Francis, R. T.,	*Oxnard*	37
Francis, R. K.,	*Inglewood*	10
Francis, V. C.,	*Long Beach*	10
Francis, W. V. C.,	*Los Angeles*	10
Francoz, M. A.,	*San Francisco*	23
Frandy, M. F.,	*Oakland*	1
Franklin, D. M.,	*Los Angeles*	10
Franklin, E. A.,	*Los Angeles*	10
Franklin, W. S.,	*Santa Barbara*	27
Fraser, H. E.,	*San Francisco*	23
Fraser, L. H.,	*Richmond*	3
Fraser, M. L.,	*Los Angeles*	10
Frawley, J. M.,	*Fresno*	4
Frederickson, H.,	*Eldridge*	33
Frees, B. M.,	*Los Angeles*	10
Fregeau, A. N.,	*San Francisco*	23
Freidell, H. F.,	*Santa Barbara*	27
French, C. E.,	*San Francisco*	23
French, J. R.,	*Los Angeles*	10
Freudenthal, L.,	*Gridley*	2
Frey, B. A.,	*Los Angeles*	10
Frey, R. G.,	*Red Bluff*	35
Frey, W. C.,	*San Francisco*	23
Freyermuth, O. G.,	*San Francisco*	23
Freytag, C. F.,	*Los Angeles*	10
Frick, D. J.,	*Los Angeles*	10
Fricke, A. A.,	*Los Angeles*	10
Friedberger, W.,	*Stockton*	24
Friedlander, R. D.,	*San Francisco*	23
Friedman, A.,	*San Francisco*	26
Friedman, J. C.,	*Banning*	18
Friedman, M.,	*Los Angeles*	10
Friesen, H. J.,	*Glendale*	10
Frisch, A.,	*Los Angeles*	10
Fritschen, W.,	*San Francisco*	23
Frizzell, R. R.,	*Pasadena*	10
Froehlich, D. E.,	*Oakland*	1
Frohman, B. S.,	*Los Angeles*	10
Frost, E.,	*Stockton*	24
Frost, K. P.,	*Los Angeles*	10
Frug, J.,	*Oakland*	1
Fuller, M. B.,	*Julian*	22
Fuller, R. N.,	*Tulare*	36
Fulmer, C. C.,	*San Francisco*	23
Furbush, C. G.,	*Oakland*	1
Furlong, R. M.,	*San Francisco*	11
Furness, G. B.,	*Visalia*	36
Furstman, J. M.,	*Monrovia*	10
Futch, C. E.,	*Los Angeles*	10

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NAME	CITY	COUNTY SOCIETY NO.
Gaffney, G. F.,	*San Francisco*	23
Gafford, J. A.,	*Huntington Park*	10
Gage, A. T.,	*Redlands*	21
Gage, C. E.,	*Los Angeles*	10
Gageby, L. H.,	*Los Angeles*	10
Gailmard, C. R.,	*Los Angeles*	10
Galbraith, A.,	*Oakland*	1
Galbraith, F. B.,	*Alameda*	1
Galbraith, G. H.,	*Long Beach*	10
Gale, W. V.,	*Los Angeles*	10
Gallagher, H. F.,	*Los Angeles*	10
Gallant, A. E.,	*Los Angeles*	10
Gallant, P. A.,	*Huntington Park*	10
Gallegos, P. B.,	*Stockton*	24
Galligan, C. A.,	*Monterey*	14
Gallwey, J.,	*San Francisco*	23
Gamette, D. L.,	*Los Angeles*	10
Ganoe, C. V.,	*Los Angeles*	10
Gans, C. H.,	*Long Beach*	10
*Garcelon, H.,	*Arrowhead Springs*	21
Garcia, L. C.,	*San Francisco*	23
Gardner, C. S.,	*Oakland*	1
Gardner, F. M.,	*San Bernardino*	21
Gardner, F. W.,	*Loma Linda*	21
Gardner, H. L.,	*San Francisco*	23
Gardner, W. E.,	*Riverside*	18
Gardner, W. M.,	*Los Angeles*	10
Garfinkle, F. E.,	*San Francisco*	23
Garland, L. H.,	*San Francisco*	23
Garner, G. W.,	*Taft*	7
Garnett, A. S.,	*San Bernardino*	21
Garrett, F. H.,	*Patton*	21
Garrison, B. E.,	*Riverside*	18
Garrison, J. F.,	*Inglewood*	10
Garrison, O. H.,	*Oakland*	1
Garstang, D. B.,	*Los Angeles*	10
Garth, W. L.,	*San Diego*	22
Gaspard, F. J.,	*Los Angeles*	10
Gasteiger, E. S.,	*Los Angeles*	10
Gates, C. Y.,	*San Francisco*	23
Gates, M. G.,	*Ocean Park*	10
Gates, M. J.,	*Santa Cruz*	29
Gatliff, W. W.,	*Butte City*	38
Gattuccio, B.,	*San Jose*	28
Gaulden, C. L.,	*Los Angeles*	10
Gauthier, A. E.,	*San Francisco*	23
Gay, H. M.,	*Pasadena*	10
Gay, LeR. K.,	*San Francisco*	23
Geddes, M. A.,	*Santa Ana*	16
Gehrels, E.,	*San Francisco*	23
Gehrels, F.,	*San Mateo*	26
Geiger, J. C.,	*San Francisco*	23
Geisler, W. H.,	*San Jose*	28
Geith, C. R.,	*Riverside*	18
Gelston, C. F.,	*San Francisco*	23
Gentry, H. G.,	*Redlands*	21
George, A. R.,	*Loma Linda*	21
George, J. M.,	*San Francisco*	23
George, L. H.,	*Loma Linda*	21
George, W. A.,	*Loma Linda*	21
Gerlough, R. J.,	*Menlo Park*	26
Germann, A. C.,	*Los Angeles*	10
Gernand, H. C.,	*Los Angeles*	10
Gerrard, C. C.,	*Redding*	30
Gerstle, M., Jr.,	*San Francisco*	23
Geshelin, H. I.,	*Los Angeles*	10
Geyman, M. J.,	*Santa Barbara*	27
Ghormley, V. G.,	*Fresno*	4
Ghrist, D. G.,	*Los Angeles*	10
Ghrist, D. M.,	*Glendale*	10
Ghrist, O. E.,	*Glendale*	10
Giannini, A. H.,	*Los Angeles*	23
Giberson, A. F.,	*San Quentin*	11
Gibbons, H., III,	*Silver Lake*	23
Gibbons, H. W.,	*Sacramento*	19
Gibbons, M. R.,	*San Francisco*	23
Gibbons, M. R., Jr.,	*San Francisco*	23
Gibbs, D. H.,	*Los Angeles*	10
Gibbs, R. S.,	*San Bernardino*	21
Gibson, A. L.,	*Los Angeles*	10
Gibson, T. E.,	*San Francisco*	23
Gidley, D. S.,	*Ontario*	21
Gidoll, S. H.,	*San Francisco*	23
Gifford, M. A.,	*Berkeley*	23
Gilbert, J. S.,	*Los Angeles*	10
Gilbert, N.,	*Van Nuys*	10
Gilbert, Q. O.,	*Oakland*	1
Gilbert, R.,	*San Francisco*	23
Gilbert, W. H.,	*Los Angeles*	10
Gilcreest, E. L.,	*San Francisco*	23
Gilfillan, H. M.,	*San Francisco*	23
Gilkey, W. D.,	*Long Beach*	10
Gillespie, P. B.,	*Santa Ana*	16
Gilliatt, W. H.,	*Coalinga*	4
Gillihan, A. F.,	*San Luis Obispo*	25
Gilliland, M. L.,	*Los Angeles*	10
Gillis, J. D.,	*Los Angeles*	10
Gillis, J. P.,	*Los Angeles*	10
Gilman, A. A.,	*San Francisco*	23
Gilman, P. K.,	*San Francisco*	23
Ginsburg, H. M.,	*Fresno*	4
Ginsburg, S. S.,	*Visalia*	36
Girard, F. R.,	*San Francisco*	23
Girdlestone, C. W.,	*Riverside*	18
Gius, E. A.,	*San Francisco*	23
Glascock, F. L.,	*Los Angeles*	10
Glaser, M. A.,	*Los Angeles*	10
Glass, S. J.,	*Los Angeles*	10
Glassman, S. C.,	*Los Angeles*	10
Gleason, A. L.,	*Oakland*	1
Gleeten, S. D.,	*Monrovia*	10
Glenn, J. S.,	*Exeter*	36
Glenn, R. A.,	*Oakland*	1
Glenn, T. H.,	*Los Angeles*	10
Glidden, R. Y., Jr.,	*Los Angeles*	10
Gliebe, P. A.,	*San Francisco*	23
Gloor, E. E.,	*Watsonville*	29
Glyer, R. T.,	*Mountain View*	28
Gobar, F. H.,	*Fullerton*	16
Gocher, T. E. P.,	*Fairfax*	11
Goddard, W. P.,	*Mill Valley*	11
Godshall, L. D.,	*Los Angeles*	10
Godwin, D. E.,	*Long Beach*	10
Goeckerman, W. H.,	*Los Angeles*	10
Goin, L. S.,	*Los Angeles*	10
Golden, J. H.,	*San Francisco*	23
Goldberg, A. T.,	*Fresno*	4
Goldberg, M. B.,	*San Francisco*	23
Goldberg, P. H.,	*Los Angeles*	10
Goldberg, S. S.,	*Los Angeles*	10
Goldberg, V.,	*Long Beach*	10
Golding, D. G.,	*Santa Monica*	10
Goldman, T. H.,	*Los Angeles*	10
Goldman, V. S.,	*San Francisco*	23
Goldstein, J.,	*Los Angeles*	10
Goldwasser, M.,	*Los Angeles*	10
Golitzin, A.,	*Los Angeles*	10
Gomes, J. J.,	*Oakland*	1
Gompertz, K. R.,	*Berkeley*	1
Goodman, M.,	*Stockton*	24
Gorb, R.,	*San Francisco*	23
Gordon, K. W.,	*Los Angeles*	10
Gorham, C. B.,	*Monterey*	14
Gosney, C. W.,	*Hollywood*	10
Gospe, S. M.,	*San Francisco*	23
Gossage, H. S.,	*Petaluma*	33
Gossard, J. E.,	*Sierra Madre*	10
Gotfredson, H. L.,	*Monterey Park*	10
Gottbrath, N. J.,	*Agnew*	28
Gottlieb, A. J.,	*Los Angeles*	10
Gottschalk, A.,	*San Francisco*	23
Gough, A. S.,	*El Segundo*	10
Gouguet, L. J.,	*Sacramento*	19
Gould, N. B.,	*Modesto*	34
Gourley, I.,	*Livermore*	1
Gowan, C. H.,	*Glendale*	10
Graeser, J. B.,	*Oakland*	1
Graham, H. B.,	*San Francisco*	23
Graham, H. K.,	*San Diego*	22
Graham, J. A.,	*Barstow*	21
Graham, J. P.,	*Los Angeles*	10
Graham, L.,	*Newberry*	21
Graham, R. E.,	*Oakland*	1
Graham, R. S.,	*Sacramento*	19
Granger, A. S.,	*Los Angeles*	10
Grant, B. E., Jr.,	*Glendale*	10
Grant, R. F.,	*San Francisco*	23
Gratiot, W. M.,	*Monterey*	14
Grau, E. C.,	*Niles*	1
Graun, R. E.,	*Los Gatos*	28
Graves, C. A.,	*Beverly Hills*	10
Graves, J. H.,	*San Francisco*	23
Graves, J. M.,	*San Francisco*	23
Graves, R. V.,	*Fullerton*	16
Gray, E.,	*Los Angeles*	10
Gray, E. E.,	*Marysville*	39
Gray, E. H.,	*Woodland*	38
Gray, G. A.,	*San Jose*	28
Gray, G. H.,	*Oakland*	1
Gray, H.,	*San Francisco*	23
Gray, J. R.,	*Carmel*	14
Gray, P. A., Jr.,	*Santa Barbara*	27
Gray, R. M.,	*Indio*	18
Gray, R. N.,	*Hartford, Conn.*	23
Graybill, M. B.,	*Escondido*	22
Grayman, H. M.,	*Dos Palos*	13
Green, A. S.,	*San Francisco*	23
Green, B., Jr.,	*Riverside*	18
Green, H. R.,	*Palo Alto*	28
Green, J.,	*Los Angeles*	10
Green, J. W.,	*Vallejo*	32
Green, L. D.,	*San Francisco*	23
Green, M. I.,	*San Francisco*	23
Green, R. C.,	*Fullerton*	16
Greenbaum, G. B.,	*Los Angeles*	10
Greengo, C. G.,	*Los Angeles*	10
Greenwood, C. F.,	*Oakland*	1
Greenwood, E. N.,	*San Francisco*	23
Greer, E. D.,	*Oakland*	1
Gregg, F. C.,	*Calexico*	6
Gregg, H. J.,	*Calexico*	6
Gregory, C. A.,	*Sanitarium*	15
Gregory, F. S.,	*Redwood City*	26
Gregory, H. L.,	*Stockton*	24
Gregory, W. A.,	*Oakland*	1
Grey, C. A.,	*Burbank*	10
Griffin, W. L.,	*Los Angeles*	10
Griffith, A. H.,	*Oakland*	1
Griggs, D. E.,	*Los Angeles*	10
Grimmer, E. M.,	*Irvington*	1
Griner, E. C.,	*Stockton*	24
Grishaw, W. H.,	*Los Angeles*	10
Groat, M. J.,	*Los Angeles*	10
Grodsky, L. I.,	*San Francisco*	23
Groff, S. H.,	*Los Angeles*	10
Grogan, R. E.,	*Los Angeles*	10
Gronhovd, G. O.,	*Santa Paula*	37
Groper, M. J.,	*San Francisco*	23
Gross, H. G.,	*Eureka*	5
Grosse, A. B.,	*San Francisco*	23
Groves, R. L.,	*San Francisco*	23
Grow, L. W.,	*San Diego*	22
Grundy, G. M.,	*Newport Beach*	16
Guedel, A. E.,	*Beverly Hills*	10
Guenther, L. P.,	*Los Angeles*	10
Guerra, A. L.,	*Alameda*	1
Guidinger, W. E.,	*San Pedro*	10
Guido, F. R.,	*Visalia*	36
Guinan, E. R.,	*Richmond*	3
Gumness, K. C.,	*Los Angeles*	10
Gummig, E. A.,	*Pasadena*	10
Gumpert, M. W.,	*Los Angeles*	10
Gunderson, H. J.,	*Los Angeles*	10
Gundrum, F. F.,	*Sacramento*	19
Gundrum, W. H.,	*Owensmouth*	10
Gundry, F. J.,	*Bakersfield*	7
Gunn, F. G.,	*Kelseyville*	15
Gunther, L.,	*Los Angeles*	10
Gustafson, A. W.,	*Gustine*	13
Gustafson, R. K.,	*Pasadena*	10
Guttman, P. H.,	*Sacramento*	19

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NAME	CITY	COUNTY SOCIETY NO.
Haas, S. L.,	*San Francisco*	23
Haber, W. J.,	*San Francisco*	23
Hablutzel, C. E.,	*San Jose*	28

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Haddow, N. W. A.	*Los Angeles*	10
Hadley, C. M.	*San Bernardino*	21
Haenszel, A. L.	*San Bernardino*	21
Hagan, B. J.	*San Francisco*	23
Hagedorn, E. F.	*Modesto*	34
Hagen, H.	*San Luis Obispo*	25
Hager, B. H.	*Los Angeles*	10
Hahn, L. W.	*Berkeley*	1
Haig, T. R.	*Sacramento*	19
Haight, L. M.	*Stockton*	24
Haines, C. L.	*Altadena*	10
Haines, W. H.	*Etna*	31
Hainsworth, E. L.	*Ventura*	37
Halburg, C. T.	*Glendale*	10
Haldeman, K. O.	*San Francisco*	23
Hale, N. G.	*Sacramento*	19
Haley, P. S.	*San Jose*	28
Hall, C.	*Oakland*	1
Hall, C.	*Los Angeles*	10
Hall, C. C.	*Oakland*	1
Hall, E. H.	*Vernon*	10
Hall, E. M.	*Los Angeles*	10
Hall, G. E.	*Palo Alto*	28
Hall, G. J.	*Sacramento*	19
Hall, G. P.	*San Jose*	28
Hall, G. S.	*Los Angeles*	10
Hall, L. L.	*Montebello*	10
Hall, R. C.	*San Diego*	22
Hall, T. G.	*San Francisco*	23
Halley, E. C.	*Sanger*	4
Halsey, W. H.	*San Diego*	22
Halverson, W. L.	*Pasadena*	10
Ham, G. H.	*Culver City*	10
Haman, J. O.	*San Francisco*	23
Hambleton, H. G.	*Los Angeles*	10
Hambleton, M. P.	*Fontana*	21
Hambo, C. C.	*Riverside*	18
Hamer, C.	*Glendale*	10
Hamilton, G. V.	*Santa Barbara*	27
Hamilton, J. K., Jr.	*Alameda*	1
Hamilton, L. M.	*Oakland*	1
Hamilton, P. L.	*Chico*	2
Hamilton, P. M.	*Alhambra*	10
Hamilton, R. L.	*Marysville*	39
Hamlin, O. D.	*Oakland*	1
Hamlin, R. E.	*Santa Rosa*	33
Hammack, R. W.	*Los Angeles*	10
Hammond, N. E.	*Los Angeles*	10
Hand, F. B.	*San Francisco*	23
Hand, L. J.	*San Francisco*	23
Hanford, F. W.	*Los Angeles*	10
Hankins, F. D.	*Riverside*	18
Hankins, J. W.	*Azusa*	10
Hanley, B. J.	*Los Angeles*	10
Hanlon, E. W.	*San Francisco*	23
Hanlon, H. H.	*Los Angeles*	10
Hanna, C. M.	*McArthur*	30
Hannah, W.	*Long Beach*	10
Hansen, A. M.	*Los Angeles*	10
Hansen, O. J.	*Redding*	30
Hanson, J. H.	*San Francisco*	23
Hanson, S.	*Stockton*	24
Hanze, H. G.	*Solvang*	27
Hanzlik, P. J.	*San Francisco*	26
Happ, W. M.	*Los Angeles*	10
Hara, H. J.	*Los Angeles*	10
Hara, M. F.	*Los Angeles*	10
Harada, M. A.	*Sacramento*	19
Harbaugh, O. S.	*San Diego*	22
Harbaugh, R. W.	*San Francisco*	23
Harbert, E.	*Stockton*	24
Hardeman, V. V.	*San Francisco*	23
Harder, W. R.	*Los Gatos*	28
Harding, G. F.	*Santa Monica*	10
Harding, H. W.	*Oakland*	1
Harding, M. C.	*San Diego*	22
Harding, T. E. W.	*Los Angeles*	10
Hardy, B. W.	*Huntington Beach*	16
Hare, G. A.	*Fresno*	4
Hare, H. P.	*Los Angeles*	10
Hare, M. M.	*Glendale*	10
Hare, R. A.	*Santa Barbara*	27
Harmon, E. D.	*San Francisco*	23
Harmon, T. G.	*San Francisco*	23
Harner, C. E.	*Long Beach*	10
Harner, H. R.	*Los Angeles*	10
Harper, T. C.	*Reno, Nevada*	11
Harrington, D. O.	*San Francisco*	23
Harrington, J. T.	*Santa Cruz*	29
Harr, R. V.	*Eldridge*	33
Harris, E. L.	*Oakland*	1
Harris, F. I.	*San Francisco*	23
Harris, H. I.	*Los Angeles*	10
Harris, J. B.	*Sacramento*	19
Harris, J. M.	*Los Angeles*	10
Harris, M. S.	*Los Angeles*	10
Harris, M. W.	*Novato*	11
Harris, R. C.	*Santa Ana*	16
Harris, R. H.	*Los Angeles*	10
Harrison, E.	*Los Angeles*	10
Harrison, E. S.	*Gridley*	2
Harrison, F.	*Gridley*	2
Harrison, W. J.	*Guernsey, Wyo*	10
Hart, A. C.	*Sacramento*	19
Hart, C. D.	*San Francisco*	23
Hart, M. E.	*San Francisco*	26
Hart, V. W.	*Yreka*	31
Hart, W. E.	*Oakland*	1
Harter, T. H.	*Pasadena*	10
Hartman, G. J.	*Pasadena*	10
Hartman, G. W.	*San Francisco*	23
Hartman, H.	*Modesto*	34
Hartwell, R. W.	*Beaumont*	18
Hartwig, L. G.	*Los Angeles*	10
Harvey, J. E.	*Pasadena*	10
Harvey, R. J.	*Anaheim*	16
Harwood, D. A.	*Santa Ana*	16
Hashiba, G. K.	*Fresno*	4
Haskell, H. A.	*Santa Rosa*	33
Hastings, H.	*Los Angeles*	10
Hastings, S. W.	*Monterey*	14
Hastreiter, R. F.	*Los Angeles*	10
Hatfield, H. L.	*Pasadena*	10
Hawes, R. E.	*Huntington Beach*	16
Hawk, C. L.	*Los Angeles*	10
Hawkins, C. L.	*Taft*	7
Hawkins, G. A.	*Reedley*	4
Hawkins, G. G.	*Madera*	4
Hawkins, H. M.	*E. Bakersfield*	10
Hawkins, J. O.	*San Rafael*	11
Hawkins, L. P.	*Los Angeles*	10
Hawley, M. C.	*Agnew*	28
Haworth, M. W.	*Sacramento*	19
Hay, E. O.	*Los Angeles*	10
Hayes, C. M.	*Los Angeles*	10
Hayes, E. W.	*Monrovia*	10
Haygood, A. G.	*Downey*	10
Hayhurst, D. E.	*Ontario*	21
Hayhurst, J. S.	*Redlands*	21
Haynes, F. W.	*Los Angeles*	10
Haynes, J. R.	*Los Angeles*	10
Hayton, C. H.	*Los Angeles*	10
Hazeltine, M. E.	*San Rafael*	11
Heald, A. H.	*San Francisco*	26
Heald, E. S.	*Berkeley*	1
Heard, W. R.	*Pasadena*	10
Hebert, A. W.	*San Francisco*	23
Hedberg, C. C.	*San Francisco*	23
Heddens, V. O.	*Pasadena*	10
Hedges, L. A.	*Richmond*	3
Heegler, F. D.	*Napa*	15
Heffelfinger, M. A.	*Los Angeles*	10
Heidenreich, H. H.	*Los Angeles*	10
Heidenreich, W. M.	*Arcada*	10
Heiges, L. E.	*Lompoc*	27
Heiges, L. E., Jr.	*Lompoc*	27
Hein, G. E.	*Burlingame*	23
Heinatz, M. A.	*Oakland*	1
Heinz, R.	*Pleasanton*	1
Heissig, I.	*Los Angeles*	10
Held, F.	*Anaheim*	16
Helsley, G. F.	*San Francisco*	23
Helstrom, G. L.	*Fontana*	21
Hemken, L.	*Los Angeles*	21
Hemminger, G. W.	*Biggs*	2
Hench, J. M.	*Stockton*	24
Henderson, A. M.	*Sacramento*	19
Henderson, E. W.	*Alameda*	23
Henderson, H. E.	*Santa Barbara*	27
Henderson, H. G.	*San Francisco*	23
Henderson, J. G.	*San Francisco*	23
Henderson, R. G.	*Long Beach*	10
Henderson, W. R.	*Long Beach*	10
Hendricks, F. R.	*Ventura*	37
Hendrickson, H. S.	*Los Angeles*	10
Henke, G. B.	*Ontario*	21
Henning, B. H.	*San Francisco*	23
Henninger, L. L. R.	*Pasadena*	10
Henrich A. G.	*Los Angeles*	10
Henry, A. W.	*San Leandro*	1
Henry, J. R.	*Oakland*	1
Henry, M. G.	*Los Angeles*	10
Hensel, G. C.	*San Francisco*	23
Hensler, H. N.	*San Anselmo*	11
Hepplewhite, J. G.	*Chico*	2
Heppner, G. J.	*San Francisco*	23
Herman, B. S.	*San Francisco*	23
Heron, I. C.	*San Francisco*	23
Herrick, A. B., Jr.	*Santa Rosa*	33
Herrick, F. L.	*Livermore*	1
Herring, J. B.	*San Francisco*	23
Herscher, H. L.	*Los Angeles*	10
Hershberger, L.	*Los Angeles*	10
Hershey, C. J.	*Los Angeles*	10
Hershman, F.	*Los Angeles*	10
Hertzog, F. C.	*Long Beach*	10
Herzikoff, S. S.	*Los Angeles*	10
Herzog, G. K.	*San Francisco*	23
Hessel, V. E.	*Los Angeles*	10
Heuler, L.	*Fellows*	7
Heuschele, W. H.	*San Jose*	28
Hewitt, D.	*Los Angeles*	10
Heylmun, H. H.	*Long Beach*	10
Hiatt, R. S.	*Modesto*	34
Hibben, J. S.	*Pasadena*	10
Hickey, N. G.	*Walnut Park*	10
Hicks, A. M.	*San Francisco*	23
Hicks, J. R.	*Tulare*	36
Hieronymus, A.	*Oakland*	1
Higbee, D. R.	*San Diego*	22
Higgs, D. W. P.	*Chula Vista*	22
Hileman, J. E.	*San Diego*	22
Hill, A. L.	*Los Angeles*	10
Hill, E. J.	*Eureka*	5
Hill, E. W.	*San Andreas*	24
Hill, H. A.	*San Francisco*	23
Hill, H. G.	*Redlands*	21
Hill, H. P.	*San Francisco*	23
Hill, J. C.	*Palm Springs*	18
Hill, L. R.	*Long Beach*	10
Hill, M. R.	*Los Angeles*	10
Hill, R. B.	*Los Angeles*	10
Hill, R. C.	*Exeter*	36
Hill, T. P.	*Lakeport*	12
Hill, W. B.	*Long Beach*	10
Hilliard, C. G.	*Redlands*	21
Hills, C. B.	*Berkeley*	1
Hillyard, L. V.	*Los Angeles*	10
Hillyer, L.	*Los Banos*	13
Hilton, J. J.	*Los Angeles*	10
Hinckley	*Corcoran*	8
Hines, D. C.	*Palo Alto*	28
Hines, L. W.	*Santa Rosa*	33
Hinman, F.	*San Francisco*	23
Hippach, R. M.	*Los Angeles*	10
Hirschfeld, M. H.	*San Francisco*	23
Hirshfeld, S.	*Los Angeles*	10
Hiscox, E. J.	*Loma Linda*	21
Hitchcock, H. H.	*Oakland*	1
Hixson, W. C., Jr.	*Beverly Hills*	10
Hoag, C. L.	*San Francisco*	23
Hoag, H. J.	*San Jose*	28
Hoagland, H.	*Palm Springs*	18
Hodgdon, F. W., Jr.	*Pasadena*	10
Hodges, W. A.	*La Vina*	10
Hodgins, F. W.	*Oakland*	1
Hodgin, R. I.	*Big Bar*	21
Hodgkin, P.	*El Centro*	6
Hoefer, A. G.	*San Diego*	22
Hoffman, A. M.	*Los Angeles*	10
Hoffman, H. V.	*San Francisco*	23
Hoffman, L. H.	*San Francisco*	23
Hoffman, P. B.	*Marysville*	39
Hoffman, P. E.	*San Francisco*	23
Hoffman, R. O.	*San Diego*	22
Hogg, R. L.	*Saratoga*	28
Hohanshelt, A. S.	*Olive View*	10
Hohl, E. M.	*Los Angeles*	10
Hoke, P. I.	*Los Angeles*	10
Holcomb, W. F.	*Oakland*	1
Holder, H. G.	*San Diego*	22
Holeman, G. S.	*Centerville*	1
Holladay, F. S.	*Los Angeles*	10
Hollenbeck, A. E.	*Eagle Rock*	10
Holleran, G. C.	*Brawley*	6
Holleran, J. F.	*Los Angeles*	10
Holleran, W. M.	*Los Angeles*	10
Holley, W. W.	*Inglewood*	10
Holliger, C. D.	*Stockton*	24
Hollingsworth, L. D.	*Los Angeles*	10
Hollingsworth, M. W.	*Santa Ana*	16
Hollombe, B. S.	*Los Angeles*	10
Holm, E.	*Eureka*	5
Holman, E. F.	*San Francisco*	23
Holman, W. F.	*Los Angeles*	10
Holmer, V. C.	*San Francisco*	23
Holmes, A. J.	*Pasadena*	10
Holmes, O. M.	*San Mateo*	26
Holt, C. Z.	*Los Angeles*	10
Holt, R. A., Jr.	*Los Angeles*	10
Holzman, A. J.	*Santa Barbara*	27
Holzman, R. R.	*Los Angeles*	10
Hombach, F. J.	*Santa Barbara*	27
Homer, R. W.	*Ventura*	37
Homman, G. L.	*Los Angeles*	10
Homme, O. H.	*Los Angeles*	10
Honaker, G. T.	*San Leandro*	1
Honor, H. C.	*Cotati*	33
Honor, V. O.	*Cotati*	33
Hoobler, H. R.	*Oakland*	1
Hooker, M. O.	*Santa Barbara*	27
Hooval, J. H.	*Ontario*	21
Hoover, E. F.	*San Diego*	22
Hoover, J. N.	*Long Beach*	10
Hope, R. B.	*Los Angeles*	10
Hopkins, E. K.	*San Francisco*	23
Hopkins, H.	*Los Angeles*	10
Hopkins, J. W.	*Glendale*	10
Hopkins, M. A.	*Sacramento*	19
Hopkins, M. F.	*San Jose*	28
Hopkirk, C. C.	*Santa Monica*	10
Horn, C. E.	*San Francisco*	23
Horner, C. D.	*San Francisco*	23
Horner, H. E.	*West Los Angeles*	10
Horner, W. D.	*San Francisco*	23
Horst, W. W.	*Wilmington*	10
Horton, F. L.	*Pomona*	10
Horwitz, H.	*Oakland*	1
Hosford, G. N.	*San Francisco*	23
Hoskins, G.	*Long Beach*	10
Hoskins, H. D.	*San Diego*	22
Hosmer, C. M.	*San Diego*	22
Hosmer, M. N.	*San Francisco*	23
Houck, G. H.	*Los Angeles*	10
Hough, R. C.	*San Diego*	22
Houghton, A. D.	*San Fernando*	10
Houloose, J.	*Long Beach*	10
House, L. C.	*El Centro*	6
Houseworth, A. L.	*Los Angeles*	10
Houston, A. J.	*San Francisco*	23
Houzvicka, O. A.	*San Diego*	22
Hovde, A. G.	*Hollywood*	10
Howard, B. F.	*Sacramento*	19
Howard, C. E.	*San Diego*	22
Howard, G. R.	*Bell*	10
Howard, N. J.	*San Francisco*	23
Howe, R. D.	*Redwood City*	26
Howell, A. J.	*Berkeley*	1
Howitt, H. O.	*San Rafael*	11
Howson, C. R.	*Los Angeles*	10
Hoyt, H. S.	*Pacific Grove*	14
Hoyt, W. F.	*Berkeley*	1
Hromadka, A. B.	*Santa Monica*	10
Hubbard, C. D.	*Huntington Park*	10
Hubert, C. I.	*Los Angeles*	10
Huenergardt, A. G.	*Los Angeles*	10

NAME	CITY	COUNTY SOCIETY NO.
Huenergardt, H. A.,	*Berkeley*	1
Huff, G. D.,	*San Diego*	22
Huff, L. J.,	*Los Angeles*	10
Huffman, H. G.,	*Santa Ana*	16
Huffman, L. D.,	*Los Angeles*	10
Huggins, W. L.,	*Los Angeles*	10
Hughes, R. E.,	*Los Angeles*	23
Hughes, S. E.,	*Los Angeles*	10
Hull, E. H.,	*San Bernardino*	21
Hull, J. P.,	*Stockton*	24
Hull, L. C.,	*Hollister*	20
Hull, R. L.,	*Hollister*	20
Humber, J. D.,	*San Francisco*	23
Hummel, E. M.,	*Talmage*	12
Humphrey, W. H.,	*Oakland*	1
Humphreys, J. M.,	*Sanger*	4
Hunnicutt, C. C.,	*Los Angeles*	10
Hunnicutt, L. G.,	*Pasadena*	10
Hunsberger, H. S.,	*San Francisco*	23
Hund, H. O.,	*San Rafael*	11
Hunt, R. A.,	*Riverdale*	4
Hunt, R. W.,	*Santa Barbara*	27
Hunt, V. C.,	*Los Angeles*	10
Hunt, W. A.,	*Fresno*	4
Hunt, W. R.,	*Santa Barbara*	27
Hunter, P. M.,	*Pebble Beach*	14
Hunter, T. V.,	*Hollywood*	10
Hunter, W. E.,	*South Gate*	10
Hunter, W. E.,	*Los Angeles*	10
Huntley, A. C.,	*Point Arena*	12
Huntington, H. A.,	*Los Angeles*	10
Hurwitt, S. J.,	*San Francisco*	23
Hurwitz, S. H.,	*San Francisco*	23
Husband, R. D.,	*Modesto*	34
Huston, J. M.,	*Burlingame*	26
Hutchings, R. K.,	*San Francisco*	23
Hutchinson, W. W.,	*Los Angeles*	10
Hutchison, C. W.,	*Los Angeles*	10
Hyde, R. D.,	*Beverly Hills*	10
Hyland, C. M.,	*Los Angeles*	10
Hyman, S.,	*Los Altos*	23

— I —

NAME	CITY	COUNTY SOCIETY NO.
Ianne, C. L.,	*San Jose*	28
Iki, G. S.,	*Sacramento*	19
Illick, C. R.,	*Santa Paula*	37
Illsley, M. L.,	*Claremont*	10
Imerman, C. P.,	*Hollywood*	10
Imerman, S. W.,	*Hollywood*	10
Imler, H. G.,	*Los Angeles*	10
Ing, C. S.,	*Stockton*	24
Ingalls, A. T.,	*Los Angeles*	10
Ingber, I. S.,	*San Francisco*	23
Ingels, A. E.,	*San Francisco*	23
Ingham, R. O.,	*Colton*	21
Ingham, S. D.,	*Los Angeles*	10
Inghram, H. D.,	*San Bernardino*	21
Ingram, C. H.,	*Fresno*	4
Inman, M. M.,	*Los Angeles*	10
Inman, T. G.,	*San Francisco*	23
Innis, E. C.,	*Newhall*	10
Iriki, W. K.,	*Oakland*	1
Irish, C. W.,	*Los Angeles*	10
Irvine, A. R.,	*Los Angeles*	10
Irvine, R. S.,	*San Francisco*	23
Irwin, J. C.,	*Los Angeles*	10
*Irwin, S. V.,	*Oakland*	1
Isaac, J. P.,	*Glendale*	10
Isoard, M. C.,	*Sacramento*	19
Ito, P. K.,	*Los Angeles*	10
Ivey, E. D.,	*Oakland*	1

— J —

NAME	CITY	COUNTY SOCIETY NO.
Jackson, C. R.,	*Costa Mesa*	16
Jackson, E. A.,	*Atwater*	13
Jackson, J. A.,	*Pasadena*	10
Jackson, L. H.,	*W. Los Angeles*	10
Jacob, H. H.,	*Long Beach*	10
Jacobs, A. M.,	*San Francisco*	23
Jacobs, F. E.,	*San Diego*	22
Jacobs, J.,	*Los Angeles*	10
Jacobs, L. C.,	*San Francisco*	23
Jacobs, L. G.,	*San Francisco*	23
Jacobs, S. N.,	*San Francisco*	23
Jacobson, H. A.,	*Fresno*	4
Jacobson, H. P.,	*Los Angeles*	10
Jacobson, P. N.,	*Oakland*	1
Jacobus, L. R.,	*Berkeley*	1
James, C. A.,	*Fresno*	4
James, C. M.,	*Beverly Hills*	10
James, C. S.,	*Los Angeles*	10
James, L.,	*Fresno*	4
James, M.,	*San Francisco*	23
James, R. J.,	*Los Angeles*	10
James, V. M.,	*Hollywood*	10
Jameson, P. V.,	*Huntington Park*	10
Janes, O. W.,	*Glendale*	10
Jardini, A.,	*Los Angeles*	10
Jeancon, E. C.,	*Los Angeles*	10
Jeffry, D. E.,	*Oakland*	1
Jelte, S. A.,	*Oakland*	1
Jenkins, B. E.,	*Oakland*	1
Jenkins, H. L.,	*Arcata*	5
Jenkins, R. B.,	*Los Angeles*	10
Jenney, E. R.,	*Los Angeles*	10
Jenney, W. C.,	*Vacaville*	32
Jennison, J. E.,	*San Diego*	22
Jensen, O. B.,	*Livermore*	1
Jesberg, S.,	*Los Angeles*	10
Jewel, A. R.,	*Los Angeles*	10
Jewel, R. T.,	*Los Angeles*	10
Jewett, R. A.,	*Los Angeles*	10
Johannes, J. C.,	*Santa Cruz*	29
Johnson, A. L.,	*Taft*	7
Johnson, C. A.,	*Imola*	15
Johnson, C. A.,	*Los Angeles*	10
Johnson, C. E.,	*Long Beach*	10
Johnson, C. F.,	*Oakland*	1
Johnson, C. G.,	*Long Beach*	10
Johnson, C. M.,	*San Francisco*	23
Johnson, C. R.,	*Whittier*	10
Johnson, D. D.,	*Grass Valley*	17
Johnson, E. E.,	*Palo Alto*	28
Johnson, E. D. L.,	*Alhambra*	10
Johnson, E. H.,	*Los Angeles*	10
Johnson, F. T.,	*Monrovia*	10
Johnson, G. M.,	*Los Angeles*	10
Johnson, G. S.,	*San Francisco*	23
Johnson, H. H.,	*San Francisco*	23
Johnson, H. M.,	*Pasadena*	10
Johnson, H. R.,	*Sacramento*	19
Johnson, H. S.,	*Long Beach*	10
Johnson, J. K.,	*Culver City*	10
Johnson, L. C.,	*Salinas*	14
Johnson, M.,	*Los Angeles*	10
Johnson, M. L.,	*Oakland*	1
Johnson, N. P.,	*Stockton*	24
Johnson, O. D.,	*Los Angeles*	10
Johnson, O. F.,	*Sacramento*	19
Johnson, R. H.,	*Los Angeles*	10
Johnson, R. I.,	*Westminster*	16
Johnson, R. L.,	*Corona*	18
Johnson, R. W.,	*San Fernando*	10
Johnson, W. A.,	*Antioch*	3
Johnson, W. E.,	*Santa Barbara*	27
Johnson, W. T.,	*Alhambra*	10
Johnston, E. J.,	*South Pasadena*	10
Johnston, F. R.,	*Oakland*	1
Johnston, H. A.,	*Anaheim*	16
Johnston, J.,	*Los Angeles*	10
Johnston, S. T.,	*Santa Ana*	16
Johnston, W. H.,	*Santa Barbara*	27
Johnstone, E. M.,	*Pasadena*	10
Johnstone, W. A.,	*Hanford*	8
Jones, C. B.,	*Sacramento*	19
Jones, C. P.,	*Grass Valley*	17
Jones, C. R.,	*San Diego*	22
Jones, E. F.,	*Oakland*	1
Jones, E. M.,	*Los Angeles*	10
Jones, E. W.,	*Los Angeles*	10
Jones, G. F.,	*San Francisco*	23
Jones, G. W.,	*Los Angeles*	10
Jones, H. T.,	*Los Angeles*	10
Jones, H. W.,	*Bakersfield*	34
Jones, I. H.,	*Los Angeles*	10
Jones, I. W.,	*Los Angeles*	10
Jones, J. P.,	*Los Angeles*	10
Jones, J. R.,	*Sacramento*	19
Jones, J. W.,	*San Francisco*	23
Jones, K. P.,	*Olive View*	10
Jones, L. E.,	*Roseville*	17
Jones, L. L.,	*Glendale*	10
Jones, M. N.,	*San Francisco*	23
Jones, N.,	*Sacramento*	19
Jones, O. C.,	*Santa Maria*	27
Jones, O. W.,	*San Anselmo*	11
Jones, O. W., Jr.,	*San Francisco*	23
Jones, R. A.,	*San Francisco*	23
Jones, R. B.,	*San Francisco*	23
Jones, R. M.,	*Bakersfield*	7
Jones, R. M.,	*Ventura*	37
Jones, W. A.,	*Arlington*	18
Jones, W. H.,	*Long Beach*	10
Jones, W. H. G.,	*Los Gatos*	28
Jones, Z. G.,	*Long Beach*	10
Jordan, P. A.,	*San Jose*	28
Jorgensen, S. N.,	*San Francisco*	23
Jorgenson, N.,	*Fresno*	4
Josephs, I. L.,	*Los Angeles*	10
Josephs, L.,	*Los Angeles*	10
Josephson, J. B.,	*San Jose*	28
Joyce, T. F.,	*Spadra*	10
Judd, G. E.,	*Los Angeles*	10
Judson, H. A.,	*Los Angeles*	10
Juenemann, G. F.,	*Los Angeles*	10
Julien, A. E.,	*Turlock*	34
Jump, K.,	*San Mateo*	26

— K —

NAME	CITY	COUNTY SOCIETY NO.
Kaelber, A. P.,	*San Francisco*	23
Kaffesieder, L. I.,	*Los Angeles*	10
Kaftan, L. L.,	*Los Angeles*	10
Kahl, C. W.,	*Merced*	13
Kahn, J.,	*Los Angeles*	10
Kahn, M. G.,	*Los Angeles*	10
Kalfus, J. L.,	*Santa Maria*	27
Kalichman, G. S.,	*Santa Monica*	10
Kane, L. M.,	*Los Angeles*	10
Kanner, H. M.,	*Sacramento*	19
Kaplan, H. E.,	*Stockton*	24
Kapp, M. W.,	*San Jose*	28
*Kapp, R. W.,	*San Jose*	28
Kaps, F. O.,	*Santa Ana*	16
Karr, M.,	*Sonora*	24
Karras, R. W.,	*Milwaukee, Wis*	10
Karshner, R. G.,	*Los Angeles*	10
Katz, B.,	*Los Angeles*	10
Kaufman, B.,	*San Francisco*	23
Kavanagh, M. F.,	*San Francisco*	23
Kavinoky, N. R.,	*Los Angeles*	10
Kay, G. L.,	*Redding*	30
Kay, M. M.,	*Shafter*	7
Kay, R.,	*Los Angeles*	10
Kay, W. E., Jr.,	*San Francisco*	23
Kaysen, R.,	*San Diego*	22
Kearney, F. K.,	*Hayward*	1
Kearney, W. B.,	*San Francisco*	23
Keating, V. J.,	*Los Angeles*	10
Keeler, N. S.,	*Oakland*	1
Keenan, A. S.,	*San Francisco*	23
Keeney, M. J.,	*Los Angeles*	10
Kehoe, E. J.,	*San Mateo*	26
Kehr, E. F.,	*Carmel*	14
Keiper, G. F.,	*Beverly Hills*	10
Keith, C. F.,	*Williams*	38
Kelker, G. D.,	*San Luis Obispo*	25
Kell, F. B.,	*San Bernardino*	21
Keller, F.,	*Los Angeles*	10
Keller, S. H.,	*Riverside*	18
*Kelley, G. A.,	*Bridgeport*	4
Kelley, H. W.,	*Oakland*	1
Kelley, J. W.,	*Los Angeles*	10
Kellogg, E. C.,	*Los Angeles*	10
Kelly, A. L.,	*Oceanside*	22
Kelly, E. E.,	*Pomona*	10
Kelly, T. H.,	*San Francisco*	23
Kelsey, T. W.,	*Sacramento*	19
Kemper, C. A. S.,	*Escondido*	22
Kendall, O. J.,	*San Diego*	22
Kennedy, C. R.,	*Paso Robles*	25
Kennedy, K. E.,	*Oakland*	1
Kennell, L. A.,	*San Diego*	22
Kennicott, R. H.,	*Los Angeles*	10
Kerlan, M.,	*Beverly Hills*	10
Kern, B. C.,	*Jackson*	19
Kerns, C. L.,	*Pittsburg*	3
Kerr, W. J.,	*San Francisco*	23
Kersten, E. H. W.,	*Anaheim*	16
Kersten, H. M.,	*Los Angeles*	10
Keser, M. D.,	*Richmond*	3
Kessler, E. E.,	*Los Angeles*	10
Key, W. A.,	*San Mateo*	26
Kibbe, M. E.,	*Oakland*	1
Kibby, S. V.,	*Los Angeles*	10
Kidder, F. W. K.,	*Los Angeles*	10
Kiefer, H. A.,	*Los Angeles*	10
Kiger, W. H.,	*Los Angeles*	10
Kilbourne, N. J.,	*Los Angeles*	10
Kilcher, C. W.,	*Sacramento*	19
Kilduff, R.,	*Oroville*	2
Kile, R. F.,	*San Francisco*	23
Kilfoy, E. J.,	*Los Angeles*	10
Kilgore, A. M.,	*Hollywood*	10
Kilgore, A. R.,	*San Francisco*	23
Kilgore, E. S.,	*San Francisco*	23
Kilgore, G. L.,	*San Diego*	22
Kimberlin, L. O.,	*San Francisco*	23
Kindall, C. E.,	*Los Angeles*	10
Kindall, L. E.,	*Oakland*	1
Kindopp, D. M.,	*Auburn*	17
King, C. S.,	*Los Angeles*	10
King, D. E.,	*San Francisco*	23
King, E. B.,	*Arroyo Grande*	25
King, E. H.,	*Tujunga*	10
King, H. R.,	*Winters*	38
King, J. A.,	*Ojai*	37
King, J. C. E.,	*San Diego*	22
King, J. M.,	*Los Angeles*	10
King, N. C.,	*Los Angeles*	10
King, W.,	*Chico*	2
Kinney, L. C.,	*San Diego*	22
Kinney, M. A. J.,	*Los Angeles*	10
Kinney, P. B.,	*Pasadena*	10
Kindopp, D. M.,	*Colfax*	17
Kinslow, F. A.,	*San Francisco*	23
Kinzer, E. E.,	*South Pasadena*	10
Kirby, J. M.,	*Bakersfield*	8
Kirchner, A. A.,	*Los Angeles*	10
Kirchner, H. J.,	*Los Angeles*	10
Kirchoff, J. J.,	*Los Angeles*	10
Kirk, A. W.,	*San Francisco*	23
Kirk, J. H.,	*Palo Alto*	28
Kirk, M. E.,	*Oakland*	1
Kirkle, O. L.,	*Napa*	15
Kirkpatrick, J. E.,	*Los Angeles*	10
Kirkpatrick, J. H.,	*Los Angeles*	10
Kirksey, M. M.,	*San Francisco*	23
Kirsch, R. L.,	*Pasadena*	10
Kirwin, J. J.,	*Ukiah*	12
Kiser, A. E.,	*Imola*	15
Kiskadden, W. S.,	*Los Angeles*	10
Kistinger, W. F.,	*Santa Ana*	16
Kistler, R. H.,	*San Francisco*	23
Kitagawa, K. J.,	*San Francisco*	23
Kitsuda, F. Y.,	*Sacramento*	19
Kjaerbye, C. P. H.,	*Fresno*	4
Klein, I.,	*Los Angeles*	10
Klein, J. M.,	*No. Hollywood*	10
Klick, J. J.,	*Sacramento*	19
Kliman, F. E.,	*Los Angeles*	10
Kling, D. H.,	*Los Angeles*	10
Klotz, N. C.,	*San Francisco*	23
Kluss, E. R.,	*Santa Barbara*	27
Klussman, H. O. G. T.,	*San Francisco*	23
Kneeshaw, R. S.,	*San Jose*	28
Knight, L. C.,	*San Francisco*	23
Knoll, R. F.,	*Los Angeles*	10
Knoph, B. W.,	*Brentwood*	24
Knorp, W. F.,	*Burlingame*	26
Knorr, L. R.,	*Concord*	3

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Knox, C. R.	*El Cajon*	22
Kocher, R. A.	*Carmel*	14
Koda, K.	*Watsonville*	29
Koebig, W. C. S.	*Los Angeles*	10
Koefod, H. O.	*Santa Barbara*	27
Koehler, A. E.	*Santa Barbara*	27
Koenecke, H. J	*Salinas*	14
Koepke, F. H.	*Watsonville*	29
Koford, H.	*Oakland*	1
Kohlenberger, C. F. W.	*Fullerton*	16
Kohlhase, L. H.	*Los Angeles*	10
Kohlmoos, H. J.	*Oakland*	1
Kohn, F.	*Tulare*	36
Kolb, H. J.	*Oakland*	1
Kolda, F. O.	*Alhambra*	10
Kolisch, J. M.	*Los Angeles*	10
Konantz, O. F.	*Hollywood*	10
Konigmacher, A. H.	*Fresno*	4
Konttas, P. V.	*Santa Rosa*	33
Koplin, H.	*Los Angeles*	10
Korshet, M.	*San Francisco*	23
Kortheuer, K. H.	*Calexico*	6
Kosky, A. A.	*Santa Monica*	10
Kosky, A. W.	*Santa Monica*	10
Kosterlitz, E.	*Berkeley*	1
Kracaw, F. C.	*Oakland*	1
Kraft, R. W.	*Pasadena*	10
Krahulik, E. J.	*Hollywood*	10
Kramar, L. G.	*Fortuna*	5
Krause, R. A.	*Los Angeles*	10
Kremers, E. D.	*Pasadena*	10
Kress, G. H.	*Los Angeles*	10
Kretzschmar, K. E.	*Los Angeles*	10
Kristensen, W. A.	*Los Angeles*	10
Kreutzmann, H. A. R.	*San Francisco*	23
Kroener, W. F.	*Whittier*	10
Kroger, W. P.	*Los Angeles*	10
Krohn, H. N.	*Los Angeles*	10
Kroll, F. W.	*San Francisco*	23
Krout, B. M.	*Stockton*	24
Krueger, A. P.	*Berkeley*	23
Krugmeier, C. E.	*Los Angeles*	10
Krull, F.	*Sacramento*	19
Kruse, F. H.	*San Francisco*	23
Kruse, F. L.	*San Francisco*	23
Kryder, G. B.	*Glendale*	10
Kuder, W. S.	*Oakland*	1
Kuhlman, M. B. K.	*Mid Pines*	1
Kuhlmann, F. W.	*Long Beach*	10
Kuhn, O. E.	*Stockton*	15
Kulaev, A. A. M.	*San Francisco*	23
Kulchar, G. V.	*San Francisco*	23
Kurtz, C.	*Los Angeles*	10
Kusel, E. A.	*Oroville*	2
Kutzmann, A. A.	*Los Angeles*	10
Kyddson, T. W.	*Linden*	24

— L —

NAME	CITY	COUNTY SOCIETY NO.
Lacayo, J. R.	*Los Angeles*	10
Lacey, J. M.	*Los Angeles*	10
Lacey, L. E.	*Oakland*	1
Lacey, M. J.	*Albany*	1
Lachman, G. S.	*San Francisco*	23
Lackey, H. J.	*Oakland*	1
Lackner, L.	*San Jose*	28
Lacoe, J. R.	*Los Angeles*	10
Lafontaine, E. C.	*San Francisco*	23
Lagan, E.	*San Francisco*	23
Laist, O.	*San Francisco*	23
Lajoie, R. J.	*Los Angeles*	10
Lake, T. O.	*Berkeley*	1
Lakey, W. J.	*Canoga Park*	10
Lamb, E. J.	*Santa Barbara*	27
Lamb, L. M.	*Oakland*	1
Lambert, H. W.	*Oakland*	1
Lambuth, R. W.	*Santa Barbara*	27
La Mont, W.	*Beverly Hills*	10
La Motte, L. A. J.	*Los Angeles*	10
Lamson, M.	*Palo Alto*	28
Lamson, R. W.	*Los Angeles*	10
Lancaster, J. S.	*Torrance*	10
Landegger, G. P.	*Los Angeles*	10
Landis, C. C.	*Chico*	2
Lando, H.	*Los Angeles*	10
Lando, M. E.	*Oakland*	1
Landon, G. S.	*San Bernardino*	21
Landrock, G. M.	*Philadelphia, Pa.*	11
Lane, C. R.	*Los Angeles*	10
Lane, C. W.	*Coronado*	22
Lane, J. A.	*Eureka*	5
Lang, J. H.	*Fullerton*	16
Langan, A. J.	*San Pedro*	10
Langdon, E. E.	*Santa Monica*	10
Langdon, S. W. R.	*Stockton*	24
Lange, H. V.	*Bakersfield*	8
Langer, J.	*Hilt*	31
Langley, R. W.	*Los Angeles*	10
Langlois, L. J.	*San Diego*	22
Langnecker, H. L.	*San Francisco*	23
Langstroth, L.	*San Francisco*	23
Lanphere, G. H.	*Los Angeles*	10
Larkey, J.	*Oakland*	1
Larner, T. E.	*Marysville*	39
Larsen, A. E.	*San Francisco*	23
Larsen, E.	*Los Angeles*	10
Larsen, J. W.	*Paso Robles*	25
Larsen, L. H.	*Point Reyes*	11
Larson, A. E.	*Los Angeles*	10
Larson, A. H.	*Los Angeles*	10
Larson, C. F.	*Sausalito*	11
Larson, E. A.	*Kingsburg*	4
Larson, E. E.	*Los Angeles*	10
Lartigau, A. J.	*San Francisco*	23
Lasswell, B. J.	*Quincy*	9
Laton, G. P.	*Los Angeles*	10
Latta, S. E.	*Stockton*	24
Laubersheimer, G. A.	*Los Angeles*	10
Lauder, C. H.	*Los Angeles*	10
Lauer, C. A.	*Long Beach*	10
Laughlin, T. J.	*Hollywood*	10
Lavery, W. A.	*Loyalton*	17
Law, C. H.	*Weaverville*	30
Lawler, P. W.	*Victorville*	21
Lawler, W. H.	*Salinas*	14
Lawrence, W.	*San Francosco*	23
Lawson, J. D.	*Sacramento*	19
Lawson, T. C.	*Oakland*	1
Lawyer, P. C.	*Inglewood*	10
Layman, M. H.	*San Francisco*	23
Lazard, E. M.	*Los Angeles*	10
Lazelle, H. G.	*La Jolla*	22
Leach, C. W.	*Kelseyville*	12
Leach, W. O.	*Glendale*	10
Leachman, R. S.	*Vallejo*	32
Leake, N. A.	*Torrance*	10
Leake, W. H.	*Los Angeles*	10
Leavitt, A. S.	*Los Angeels*	10
Leavitt, F. J.	*Los Angeles*	10
Le Baron, R. O.	*Talmage*	12
Ledford, R. M.	*San Diego*	22
Ledyard, C. C.	*Los Angeles*	10
Lee, D.	*San Jose*	28
Lee, E. C.	*San Diego*	22
Lee, F. J.	*Santa Monica*	10
Lee, F. W.	*Sacramento*	19
Lee, H.	*San Jose*	28
Lee, L. H.	*Los Angeles*	10
Lee, R. V. A.	*Palo Alto*	28
Leef, E.	*San Francisco*	23
Leet, N. B.	*Oakland*	1
Leet, R. S.	*Oakland*	1
Leete, C. M.	*Pasadena*	10
Leffingwell, F. E.	*Montebello*	10
Lefler, A. B.	*Los Angeles*	10
Leftwich, O. T.	*Oakland*	1
Legge, R. T.	*Berkeley*	1
Leggitt, R. C.	*Glendale*	10
Leggo, R. C.	*Crockett*	3
Leidig, L. R.	*Porterville*	36
Leimbach, J. H.	*Isleton*	18
Lemere, H. B.	*Beverly Hills*	10
Lenker, W. D.	*San Bernardino*	21
Lennon, M. B.	*San Francisco*	23
Lennon, T. J.	*San Francisco*	23
Leon, T. D.	*Concord*	3
Leonard, A. T.	*San Francisco*	23
Leonard, E. M.	*San Francisco*	23
Leonard, J. V.	*San Francisco*	23
Leonard, W. E.	*Los Angeles*	10
Lepper, L. E.	*Los Angeles*	10
Lerned, M. B.	*Pasadena*	10
Lesem, A. M.	*San Diego*	22
Levin, H. A.	*Los Angeles*	10
Levin, W. N.	*Avenal*	4
Levison, C. G.	*San Francisco*	23
Levitin, J.	*San Francisco*	23
Leviton, H. I.	*Los Angeles*	10
Levy, E. I.	*San Diego*	23
Levy, J. J.	*Los Angeles*	4
Levy, M. L.	*Los Angeles*	10
Lewis, C. E.	*Auburn*	17
Lewis, C. H.	*Santa Monica*	10
Lewis, E. R.	*Los Angeles*	10
Lewis, J. D.	*Santa Barbara*	27
Lewis, K.	*Beverly Hills*	10
Lewis, L. R.	*Los Angeles*	10
Lewis, M. L.	*Petaluma*	33
Lewis, N. H.	*Hollywood*	10
Lewis, S. A.	*Hollywood*	10
Libby, A. A.	*Pasadena*	10
Lien, F. O.	*Merced*	13
Liles, L. M.	*Watsonville*	29
Liliencrantz, G. H.	*Oakland*	1
Liljedahl, E. N.	*Los Angeles*	10
Liljencrantz, E.	*San Francisco*	1
Lilley, W. E.	*Merced*	13
Linde, F. G.	*San Francisco*	23
Lindberg, A. L.	*Los Angeles*	10
Lindberg, A. W.	*Los Angeles*	10
Lindemulder, F. G.	*San Diego*	22
Lindquist, C. A.	*Los Angeles*	10
Lindsay, C. V.	*Encinitas*	22
Lindsay, H. C. L.	*Pasadena*	10
Lindsay, W. K.	*Sacramento*	19
Lindsley, St. C. R.	*Los Angeles*	10
Lineer, A. S.	*Los Angeles*	10
Linhart, L. R.	*Los Angeles*	10
Linn, J. L.	*Glendale*	10
Linthicum, F. H.	*Los Angeles*	10
Lipkis, A.	*Los Angeles*	10
Lipp, M. J.	*Sacramento*	19
Lippman, M. H.	*San Francisco*	23
Lipsett, E. M.	*San Francisco*	23
Lipson, B.	*Los Angeles*	10
Lipson, I. M.	*Visalia*	36
Lischner, H.	*Los Angeles*	10
Lisser, H.	*San Francisco*	23
Lissner, H. H.	*Los Angeles*	10
Lista, L. J.	*Mt. Shasta*	31
Liston, E.	*Palo Alto*	28
Litchfield, H.	*Los Angeles*	10
Litle, E. W.	*Los Angeles*	10
Little, R. P.	*Santa Paula*	37
Lobingier, A. S.	*Los Angeles*	10
Lockwood, M. S.	*National City*	22
Loe, H. D.	*Oakland*	1
Loehr, B. E.	*San Jose*	28
Logan, N. H.	*Oakland*	1
Logsdon, R. O.	*San Diego*	22
Lohmann, H. G.	*Oakland*	1
Lohse, J. L.	*Oakland*	1
Loizeaux, E. S.	*San Diego*	22
Lokrantz, S. R.	*Los Angeles*	10
Lonergan, L.	*Loma Linda*	21
Long, H. E.	*Berkeley*	1
Long, S. C.	*Bakersfield*	7
Loomis, F. M.	*Oakland*	1
Loomis, N. M.	*Yuba City*	39
Looser, R. V.	*Hollywood*	10
Lopez, E. A.	*San Leandro*	1
Lopizich, I. J.	*Los Angeles*	10
Lord, D. C.	*Chico*	2
Lordan, J. P.	*Los Angeles*	10
Lorentz, R., Jr.	*San Francisco*	23
Lorenz, H. E.	*Sacramento*	19
Loring, F. W.	*Glendale*	10
Loughlin, E. L.	*Los Angeles*	10
Lounsberry, C. R.	*San Diego*	22
Loutzenheiser, J. J.	*San Francisco*	23
Love, A. A.	*Los Angeles*	10
Love, C. A., Jr.	*San Bernardino*	21
Love, E. C.	*Calistoga*	15
Lovejoy, E. D.	*Los Angeles*	10
Lovely, J. P.	*San Jose*	28
Loveren, G. S.	*Santa Barbara*	27
Low, T. C.	*Los Angeles*	10
Lowe, F. A.	*San Francisco*	23
Lowman, C. L. R.	*Los Angeles*	10
Lubin, M. L.	*San Francisco*	23
Lucas, W.	*Los Angeles*	10
Lucas, W. P.	*San Francisco*	23
Lucas, W. S.	*Richmond*	3
Lucey, D. D.	*Los Angeles*	10
Luckie, J. B.	*Pasadena*	10
Luechauer, K. D.	*Fresno*	4
Lum, D. D.	*Alameda*	1
Lum, P. A.	*Carmel*	13
Lumley, C. G.	*Huntington Park*	10
Lumsden, A. G.	*Petaluma*	33
Lund, Le V.	*Los Angeles*	10
Lundegaard, E. E.	*Weimar*	17
Lundegaard, E. M.	*Oakland*	1
Lundquist, D. T.	*Palo Alto*	28
Lunsford, C. J.	*Oakland*	1
Lurie, S. A.	*Los Angeles*	10
Lusignan, H. R.	*Monterey*	14
Luton, G. R.	*Santa Barbara*	27
Lyle, A. G.	*San Francisco*	23
Lyman, G. D.	*San Francisco*	23
Lyman, T.	*Sacramento*	19
Lynch, D. A.	*Omaha, Nebraska*	10
Lynch, E. C.	*Montebello*	10
Lynch, F. W.	*San Francisco*	23
Lynch, W. P.	*Stockton*	24

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NAME	CITY	COUNTY SOCIETY NO.
Mabee, M.	*Santa Ana*	16
MacColl, D. R.	*Los Angeles*	10
MacCoy, W. E.	*Ventura*	37
MacCracken, W. B.	*Berkeley*	1
MacDonald, F. A.	*Sacramento*	19
MacDonald, R. P.	*Los Angeles*	10
Mace, L. S.	*San Francisco*	23
Macfarlane, D. A.	*Berkeley*	1
Mack, A. E.	*Glendale*	10
Mack, C. W.	*Livermore*	1
MacKay, C. H.	*Los Angeles*	10
Mackay, J. G.	*Auburn*	17
Mackenzie, W. W.	*Hollywood*	10
Mackey, J. G.	*San Fernando*	10
MacKinnon, D. S.	*W. Los Angeles*	10
MacLafferty, N. C.	*Soquel*	29
MacLean, H. G.	*Oakland*	1
MacLean, J.	*Los Angeles*	10
Macleish, A. C.	*Los Angeles*	10
Maclennan, A. L.	*Pasadena*	10
MacMillan, D. W.	*Los Angeles*	10
MacMillan, H. A.	*Long Beach*	10
Macomber, E. B.	*Burlingame*	26
Macomber, H. W.	*Burlingame*	26
Macpherson, D. G.	*San Francisco*	23
Macpherson, F. L.	*San Diego*	22
Macpherson, J. D.	*San Diego*	22
Macpherson, W. E.	*Loma Linda*	21
*MacRae, A. D.	*San Francisco*	23
Madden, T. F.	*Fresno*	4
Madsen, L. J.	*Santa Monica*	10
Magan, P. T.	*Los Angeles*	10
Magan, W. P.	*Covina*	10
Magee, H. R.	*Los Angeles*	10
Maghy, C. A.	*Los Angeles*	10
Maginn, E. F.	*Los Angeles*	10
Magoon, L. B.	*San Jose*	28
Magrath, W. A. S.	*Oakland*	1
Mahan, L. B.	*San Diego*	22
Mahon, E. J.	*San Francisco*	23
Mahoney, L. E.	*Santa Monica*	10
Main, R. C.	*Santa Barbara*	27
Maisler, S.	*San Francisco*	23
Majer, R. G.	*Los Angeles*	10
Majors, E. A.	*Oakland*	1
Makinson, F. R.	*Oakland*	1

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*Deceased.

NAME	CITY	SOCIETY NO. COUNTY
Malcolmson, O. K.,	*Santa Monica*	10
Malis, S.,	*Los Angeles*	10
Malkin, G. M.,	*Huntington Park*	10
Mallery, J. H.,	*Trail, Oregon*	22
Malmgren, G. E.,	*Los Angeles*	10
Malone, M. C.,	*San Francisco*	23
Malone, W. M.,	*San Francisco*	23
Maloney, H. P.,	*Oakland*	1
Maloney, W. M.,	*Los Angeles*	10
Mandel, G.,	*Los Angeles*	10
Maner, G. D.,	*Los Angeles*	10
Mangan, P. J.,	*San Francisco*	23
Mann, H. H.,	*Los Angeles*	10
Mann, V. L.,	*Philadelphia, Pa*	10
Mannerstedt, G.,	*Oakland*	1
Manning, T. P.,	*Los Angeles*	10
Manning, W. R.,	*Fillmore*	37
Manny, M. A.,	*Pasadena*	10
Mansfeldt, J. H.,	*San Francisco*	23
Manson, G.,	*Fresno*	4
Manson, R. M.,	*Hayward*	1
Mantle, V. M.,	*Los Angeles*	10
Manton, W. W.,	*Pasadena*	10
Manuel, M. M.,	*Pasadena*	10
March, H. N.,	*Grass Valley*	17
Marchildon, J. W.,	*Los Angeles*	10
Marcus, H.,	*San Francisco*	23
Marcus, S. M.,	*Los Angeles*	10
Mardis, B. A.,	*San Francisco*	23
Mark, A. E.,	*Hollywood*	10
Markel, H. H.,	*San Francisco*	23
Markolf, H. F.,	*Pasadena*	10
Marks, M.,	*Long Beach*	10
Marks, S. H.,	*Pittsburg*	3
Markthaler, E. L.,	*Santa Barbara*	27
Marnell, F. S.,	*Stockton*	24
Maroon, J. L.,	*Santa Ana*	16
Marquis, C. E.,	*Oakland*	1
Marr, J. B.,	*Covina*	10
Marsden, S. A.,	*Santa Ana*	16
Marsh, C.,	*Sebastopol*	33
Marsh, O. G.,	*San Diego*	22
Marshall, B. M.,	*Eureka*	5
Marshall, H. K.,	*Glendale*	10
Marshall, J. M.,	*San Luis Obispo*	25
Marshall, O. C.,	*Watsonville*	29
Marston, C. B.,	*San Rafael*	11
Marston, H. E.,	*San Rafael*	11
Martell, B. S.,	*Santa Ana*	16
Martin, A. T.,	*Los Angeles*	10
Martin, G. S.,	*Susanville*	9
Martin, H. W.,	*Los Angeles*	10
Martin, J. P.,	*Oakland*	1
Martin, L. E.,	*Los Angeles*	10
Martin, M. L.,	*Los Angeles*	10
Martin, P. T.,	*San Jose*	28
Martin, R. C.,	*San Franciseo*	23
Martin, R. C.,	*San Bernardino*	21
Martine, A.,	*La Jolla*	22
Martins, S. M.,	*Los Angeles*	10
Martyn, G.,	*Los Angcles*	10
Marx, R.,	*Los Angeles*	10
Marxmiller, H. G.,	*Los Angeles*	10
Mason, B. B.,	*Laguna Beach*	16
Mason, B. S.,	*San Jose*	28
Mason, C. V.,	*Livermore*	1
Mason, H. M.,	*Los Angeles*	10
Mason, M. I.,	*San Josc*	28
Mason, V. R.,	*Los Angeles*	10
Massey, B. D.,	*Pasadena*	10
Masters, E. J.,	*San Francisco*	23
Masterson, J. R.,	*Berkeley*	1
Mathé, C. P.,	*San Francisco*	23
Mather, R. W.,	*Los Angeles*	10
Mathes, M. E.,	*San Francisco*	23
Mathews, S. S.,	*Los Angeles*	10
Mathewson, C.,	*Fresno*	4
Mathewson, C., Jr.,	*San Francisco*	23
Mathias, C. M.,	*Tulare*	36
Mathiasen, H.,	*Oakland*	1
Matlock, T. T.,	*Wasco*	7
Matousek, W. J.,	*Glcndale*	10
Matsumura, K.,	*San Francisco*	23
Mattison, C. W.,	*Los Angeles*	10
Mattison, S. J.,	*Pasadena*	10
Matzger, E.,	*San Francisco*	23
Mawdsley, H. L.,	*San Mateo*	26
Maxson, E. S.,	*Alhambra*	10
Maxwell, A. H.,	*Sausalito*	11
Maxwell, R. E.,	*Modesto*	34
May, H. C.,	*Los Angeles*	10
May, J. A.,	*San Diego*	22
May, L. B.,	*Bakersfield*	7
Mayfield, C.,	*Long Beach*	10
Mayman, E.,	*Modesto*	34
Maynard, M. T-R.,	*San Jose*	28
Mays, A. H.,	*Sausalito*	11
McAllister, H. R.,	*Taft*	7
McAllister, O. O. T.,	*Oakland*	1
McAnally, J. F.,	*Roseville*	17
McArthur, D. D.,	*Los Angeles*	10
McArthur, P. R.,	*Los Angeles*	10
McAtee, J. S.,	*Los Angeles*	10
McAuley, J.,	*Santa Ana*	16
McBride, R. W.,	*Burlingame*	26
McBurney, B. A.,	*Pomona*	10
McBurney, R. D.,	*Los Angeles*	10
McCallister, C. H.,	*Los Angeles*	10
McCann, D. F.,	*McCloud*	31
McCann, F. E.,	*Monrovia*	10
McCarthey, A. M.,	*Los Angeles*	10
McCarthy, F. J.,	*San Francisco*	23

NAME	CITY	COUNTY SOCIETY NO.
McCarthy, H. L.,	*Los Angeles*	10
McCarthy, J. B.,	*Carmel*	14
McCarty, H.,	*Agnew*	28
McCarty, R. B.,	*Riverside*	18
McCausland, W. S.,	*Chula Vista*	22
McChesney, G. J.,	*San Francisco*	23
McCleave, T. C.,	*Berkeley*	1
McClelland, E. S.,	*Los Angeles*	10
McClendon, S. J.,	*San Diego*	22
McClure, G.,	*Oakland*	1
McClure, J. C.,	*Lindsay*	36
McClure, J. L.,	*San Francisco*	23
McClurkin, A. A.,	*Los Angeles*	10
McColl, J. M.,	*San Diego*	22
McColl, W. F.,	*San Diego*	22
McCombs, V. J.,	*Los Angeles*	10
McConnell, J. B.,	*San Diego*	22
McConnell, O. G.,	*San Jose*	28
McCool, J. L.,	*San Francisco*	23
McCool, W. F.,	*Los Angeles*	10
McCoskey, G.,	*Stockton*	24
McCoy, C. A.,	*Los Angeles*	10
McCoy, E. T.,	*Los Angeles*	10
McCradie, R. D.,	*Oakland*	1
McCrea, F. R.,	*Long Beach*	10
McCue, J. E.,	*Crows Landing*	34
McCullough, F. E.,	*Oakland*	1
McCullough, J. M.,	*Crockett*	3
McCuskey, C. F.,	*Los Angeles*	10
McDonald, A. C.,	*Huntington Park*	10
McDonald, J.,	*San Francisco*	23
McDonnell, C. H.,	*Sacramento*	19
McDowell, B. E.,	*Merced*	13
McElhinney, P. P. B.,	*Long Bcach*	10
McEvers, A. E.,	*Los Angeles*	10
McFarlane, A. H.,	*Mountain View*	28
McGarvey, H.,	*Atascadero*	25
McGavack, T. H.,	*San Francisco*	23
McGee, R. P.,	*Los Angeles*	10
McGehee, W. H.,	*Fresno*	4
McGibbon, D.,	*Los Angeles*	10
McGill, P. R.,	*Hollywood*	10
McGinnis, J. J.,	*New York*	23
McGinty, A. T.,	*San Jose*	28
McGovney, R. B.,	*Santa Barbara*	27
McGranahan, J. H.,	*Long Beach*	10
McGrath, A. K.,	*Sonoma*	15
McGuire, F. A.,	*Stockton*	24
McGuire, J. B.,	*Mt. Shasta*	31
McGuire, T. E.,	*Burbank*	10
McGurk, R. T.,	*Stockton*	24
McHugh, J. A.,	*Stockton*	24
McHugh, P. H.,	*Stockton*	24
McHugh, T. R.,	*Los Angeles*	10
McIntosh, A. M.,	*Berkeley*	1
McKee, C. B.,	*Sacramento*	19
McKee, E. N.,	*Eagle Rock*	10
McKee, K. S.,	*Bakersfield*	7
McKee, W. C.,	*Los Angeles*	10
McKeehan, G. O.,	*Los Angeles*	10
McKeever, F. M.,	*Los Angeles*	10
McKellar, J. H.,	*Pasadcna*	10
McKelvy, R. W.,	*Los Angeles*	10
McKenna, W. J.,	*Los Angeles*	10
McKenney, P. W.,	*Alturas*	9
McKenzie, C. R.,	*Oakland*	1
McKenzie, R. B.,	*San Francisco*	23
McKibbin, J.,	*Los Angeles*	10
McKinnon, A. A.,	*Placerville*	19
McKinnon, D. D.,	*Los Angeles*	10
McKnight, W. B.,	*Portola*	9
McLain, L. C.,	*Bakersfield*	7
McLaughlin, R. C.,	*Los Angeles*	10
McLaughlin, T. H.,	*Hollywood*	10
McLean, D.,	*Sacramento*	19
McLeish, A. H.,	*Yountville*	15
McLellan, G. H.,	*San Diego*	22
McLeod, F. L.,	*Los Angeles*	10
McLeod, J. H.,	*Santa Rosa*	33
McManus, F. P.,	*Esparto*	38
McMeekin, H. R.,	*Lynwood*	10
McMillan, E. H.,	*Pasadena*	10
McMurdo, P. F.,	*San Francisco*	23
McMurtry, M. S.,	*Clovis*	4
McNab, T. R.,	*Los Angeles*	10
McNamara, D. H.,	*Santa Barbara*	27
*McNamara, T. M., Jr.,	*Bakersfield*	7
McNaught, J. B.,	*San Francisco*	23
McNeil, D.,	*Sacramento*	19
McNeil, H. G.,	*Los Angeles*	10
McNeil, W. T.,	*Stockton*	24
McNeile, L. G.,	*Los Angeles*	10
McNeilc, O. M.,	*Los Angeles*	10
McNulty, A. H.,	*San Francisco*	23
McPharlin, J. H.,	*Salinas*	14
McPhee, V. C.,	*San Francisco*	23
McPheeters, E. R.,	*Modesto*	34
McPherson, M. D.,	*Santa Cruz*	29
McQuade, J.,	*San Franeisco*	23
McRae, C. C.,	*San Francisco*	23
McReynolds, R. P.,	*Los Angeles*	10
McVicker, H. R.,	*Weed*	31
McWhirter, W. L.,	*Centerville*	1
Meade, F. J.,	*Los Angeles*	10
Meads, A. M.,	*Oakland*	1
Meals, R. W.,	*Los Angeles*	10
Means, P. C.,	*Santa Barbara*	27
Meherin, J. M.,	*San Francisco*	23
Mehlin, G. B.,	*San Diego*	22
Mehrmann, H. B.,	*Oakland*	1

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Meininger, W. M.,	*San Francisco*	23
Meland, O. N.,	*Los Angeles*	10
Melkonian, L.,	*Gilroy*	28
Mellinger, W. J.,	*Santa Barbara*	27
Mendelsohn, L.,	*Saratoga*	28
Meneray, P. A.,	*Santa Rosa*	33
Mensor, M. C.,	*San Francisco*	23
Mentzer, M. J.,	*San Francisco*	23
Mentzer, S. H.,	*San Francisco*	23
Meredith, H. H.,	*Oakland*	1
Merrill, B. E.,	*Oakland*	1
Merrill, E. R.,	*Santa Barbara*	27
Merrill, H. P.,	*Los Angeles*	10
Merrill, J. A.,	*Monterey*	14
Merrill, R. E.,	*Burbank*	10
Merrithew, E. W.,	*Martinez*	3
Mettier, S. R.,	*San Francisco*	23
Meuser, A. H.,	*Corning*	35
Meyenberg, W. D.,	*Salinas*	14
Meyer, A. J.,	*Glendale*	10
Meyer, H.,	*San Francisco*	23
Meyer, W. F.,	*San Diego*	22
Meyers, E. L.,	*Chico*	2
Meyers, E. M.,	*Oakland*	1
Michael, L.,	*San Leandro*	1
Michael, P. P.,	*Oakland*	1
Michelson, L.,	*San Francisco*	23
Michelson, P. D.,	*San Francisco*	23
Mikels, B. M.,	*Long Beach*	10
Mikels, F. M.,	*Palms*	10
Miles, R. H.,	*Alameda*	1
Miles, W. L.,	*Los Angeles*	10
Milholland, W. G.,	*Fresno*	4
Miller, A.,	*San Rafael*	11
Miller, A. V.,	*Porterville*	36
Miller, A. W.,	*Riverside*	18
Miller, C. D.,	*Glendale*	10
Miller, C. M., Jr.,	*Olive View*	10
Miller, D. G.,	*Los Angeles*	10
Miller, E. P.,	*Riverside*	18
Miller, F. F.,	*San Diego*	22
Miller, F. W.,	*Los Angeles*	10
Miller, H.,	*Los Angeles*	10
Miller, H. A.,	*Alameda*	1
Miller, H. E.,	*San Francisco*	23
Miller, H. R.,	*Chino*	21
Miller, I. S.,	*Colton*	21
Miller, J. E.,	*Los Angeles*	10
Miller, J. J., Jr.,	*San Francisco*	23
Miller, L. G.,	*Imola*	15
Miller, N.,	*Porterville*	36
Miller, P. D.,	*Dinuba*	36
Miller, R. B.,	*Glendale*	10
Miller, R. F.,	*Los Angeles*	10
Miller, R. R.,	*Pasadena*	10
Miller, R. W.,	*Los Angeles*	10
Miller, S. J.,	*Long Beach*	10
Miller, T.,	*San Diego*	22
Miller, T. K.,	*Patton*	21
Miller, W. J.,	*Los Angeles*	10
Miller, W. McC.,	*Auburn*	17
Milliken, W. P.,	*Oakland*	1
Mills, L.,	*Los Angeles*	10
Mills, W.,	*Oakland*	1
Millspaugh, W. P.,	*Los Angeles*	10
Millzner, R. J.,	*San Francisco*	23
Milo, H. W.,	*Mountain View*	28
Milton, J. T.,	*San Diego*	22
Minaker, A. J.,	*San Francisco*	23
Miner, L. L.,	*Los Angeles*	10
Minna, J. B.,	*Boston, Mass*	6
Misch, H. B.,	*Los Angeles*	10
Missall, A. S.,	*Santa Maria*	27
Mitchell, C. O.,	*Fresno*	4
Mitchell, H. H.,	*Oakland*	1
Mitchell, W. E.,	*Berkeley*	1
Mizel, M. L.,	*San Francisco*	23
Mizener, M.,	*Southgate*	10
Mock, D. C.,	*Redlands*	21
Modern, F. S.,	*Los Angeles*	10
Moffat, W. McK.,	*Santa Barbara*	27
Moffitt, E. J.,	*Los Angeles*	10
Moffitt, H. C.,	*San Francisco*	23
Moffitt, T. W.,	*Hollywood*	10
Mogan, R. F.,	*Los Angeles*	10
Mohun, C. C., Jr.,	*San Francisco*	23
Mohun, M.,	*San Mateo*	26
Molgaard, J.,	*San Franeisco*	26
Molitor, N.,	*San Diego*	22
Mollath, A. L.,	*Guadalupe*	27
Molony, W. R.,	*Los Angcles*	10
Molony, W. R., Jr.,	*Los Angeles*	10
Monson, L. P.,	*San Francisco*	1
Montalvan, J.,	*Oakland*	1
Monteith, R. F.,	*Redwood City*	26
Montgomery, C. H.,	*Los Angeles*	10
Montgomery, D. W.,	*San Francisco*	23
Montgomery, J. L.,	*Hollywood*	10
Montgomery, M. F.,	*San Francisco*	23
Montgomery, M. L.,	*San Francisco*	23
Montgomery, R. R.,	*Long Beach*	10
Montgomery, W. O.,	*San Francisco*	23
Monty, A. J.,	*San Jose*	28
Moodie, A. R.,	*Taft*	7
Moody, A. M.,	*San Francisco*	23
Moody, E. E.,	*Los Angeles*	10
Mooney, H. S.,	*Los Angeles*	10
Moor, F. B.,	*Loma Linda*	21
Moore, A. H.,	*Los Angeles*	10
Moore, A. W.,	*Los Angeles*	10
Moore, C. B.,	*San Francisco*	23
Moore, C. E.,	*San Jose*	28

NAME	CITY	COUNTY SOCIETY NO.
Moore, E. C.,	*Los Angeles*	10
Moore, G.,	*Oakland*	1
Moore, G. W.,	*Los Angeles*	10
Moore, H. A.,	*Berkeley*	1
Moore, J. B.,	*Fresno*	4
Moore, L.,	*San Francisco*	23
Moore, L. S.,	*San Jose*	28
Moore, M. H.,	*Fresno*	4
Moore, N. L.,	*Santa Ana*	16
Moore, O. M.,	*Bell*	10
Moore, P. H.,	*Hollywood*	10
Moore, R.,	*Los Angeles*	10
Moore, T. V.,	*San Jose*	28
Moore, W. G.,	*San Francisco*	23
Moore, W. H.,	*Bakersfield*	7
Moose, R. M.,	*San Bernardino*	21
Moreland, J. W.,	*San Bernardino*	21
Morgan, F. R.,	*Van Nuys*	10
Morgan, J. W.,	*San Francisco*	23
Morgan, J. D., Jr.,	*Fresno*	4
Morison, C. C.,	*Oakland*	1
Morris, B. G.,	*Indio*	18
Morris, C. A.,	*Bakersfield*	7
Morris, E.,	*Auberry*	4
Morris, F. J.,	*Los Angeels*	10
Morris, G. H.,	*Santa Maria*	27
Morris, J. K., Jr.,	*Modesto*	34
Morris, K. G.,	*Petaluma*	33
Morris, L. M.,	*San Frarncisco*	23
Morris, M.,	*San Francisco*	23
Morris, R. L.,	*San Francisco*	23
Morrison, A. A.,	*Santa Paula*	37
Morrison, L. F.,	*San Francisco*	23
Morrison, N. D.,	*San Mateo*	26
Morrison, R. J.,	*Santa Monica*	10
Morrison, W. A.,	*Los Angeles*	10
Morrissey, E. J.,	*San Francisco*	23
Morrow, H.,	*San Francisco*	23
Morse, C. O.,	*Redwood City*	26
Morse, D. L.,	*San Francisco*	23
Morse, H. A.,	*Oakland*	1
Mortensen, E. S.,	*Santa Monica*	10
Mortensen, J. P.,	*Los Angeles*	10
Mortensen, W. L.,	*Culver City*	10
Mortensen, W. S.,	*Santa Monica*	10
Morton, A. W.,	*San Francisco*	23
Morton, D. G.,	*San Francisco*	23
Morton, L. B.,	*Los Angeles*	10
Mosby, G.,	*Oakland*	1
Mosher, W. F.,	*Ventura*	37
Mote, C. D.,	*San Francisco*	23
Motheral, R.,	*Hanford*	38
Motley, E. G.,	*Santa Ana*	16
Mott, E. L.,	*Fresno*	4
Mottram, L. D.,	*Modesto*	34
Moulton, D. H.,	*Chico*	2
Mountford, G. T.,	*Coalinga*	4
Movitt, S. I.,	*Los Angelcs*	10
Movius, C. McK.,	*Los Angcels*	10
Movius, H. J.,	*Los Angeles*	10
Moyle, C. A.,	*Merced*	13
Mudd, J. L.,	*Mercd*	13
Mudd, S. G.,	*Los Angeles*	10
Mugford, I. K.,	*Sacramento*	19
Mugler, F. R.,	*San Luis Obispo*	25
Muhl, A. M.,	*San Diego*	22
Mulder, E. I.,	*Compton*	10
Mulfinger, C. L.,	*Los Angeles*	10
Mullaly, E. F.,	*Vallejo*	32
Mullen, E. W.,	*Agnew*	28
Mullen, J. L.,	*Sacramento*	19
Mullen, T. F.,	*San Francisco*	23
Mulligan, H. R.,	*Hollywood*	10
Mundall, B. P.,	*Glendale*	10
Munter, E. J.,	*San Francisco*	23
Murakami, K.,	*Salinas*	14
Murphy, H. C.,	*Salinas*	14
Murphy, J. E.,	*Sacramento*	19
Murphy, P. J.,	*Los Angeles*	10
Murphy, W. H.,	*San Mateo*	26
Murray, D. H.,	*Napa*	15
Murrieta, A. J.,	*Los Angeles*	10
Musante, A. S.,	*San Francisco*	23
Musser, L. P.,	*Oakland*	1
Myers, C.,	*Los Angeles*	10
Myers, G. E.,	*Los Angeles*	10
Myers, L.,	*San Dicgo*	22
Myers, O. R.,	*Eureka*	5
Myers, T. C.,	*Los Angeles*	10

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NAME	CITY	COUNTY SOCIETY NO.
Naeckel, H. W.,	*Riverside*	18
Naffziger, H. C.,	*San Francisco*	23
Nagel, G. W.,	*San Francisco*	23
Nagelman, C. B.,	*Santa Barbara*	27
Nahman, A. H.,	*San Francisco*	23
Napheys, W. D.,	*Los Angeles*	10
Nass, F. C.,	*San Francisco*	23
Nasser, G. E.,	*San Francisco*	23
Natzler, A.,	*Los Angeles*	10
Naughton, J. P.,	*Los Angeles*	10
Neal, J. R.,	*Los Angeles*	10
Neff, F. E.,	*Compton*	10
Negley, J. C.,	*Los Angeles*	10
Neil, J. M.,	*Oakland*	1
Nelson, A. N.,	*Los Angeles*	10
Nelson, C. F.,	*Los Angeles*	10
Nelson, C. R.,	*Oakland*	1
Nelson, C. V.,	*Los Angeles*	10
Nelson, E. A.,	*Los Angeles*	10
Nelson, E. S.,	*Los Angeles*	10
Nelson, F. H.,	*Los Angeles*	10
Nelson, H. C.,	*Santa Ana*	16
Nelson, H. M.,	*Barstow*	21
Nelson, J. E.,	*Lodi*	24
Nelson, L. G.,	*Long Beach*	10
Nelson, R. F.,	*Oakland*	1
Nesburn, H. R.,	*Hollywood*	10
Nesche, G. E.,	*Oakland*	1
Neslund, H. C,.	*Anaheim*	16
Nethercut, R. A.,	*San Francisco*	23
Netzley, R. E.,	*Pasadena*	10
Neubert, A. D.,	*Redlands*	21
Neumann, E. V.,	*Los Angeles*	10
Neville, J. E.,	*Glendale*	10
Nevin, J. L.,	*San Bernardino*	21
Nevius, F. P.,	*Antioch*	3
Nevius, J. W.,	*Los Angeles*	10
Newbarr, F. D.,	*Los Angeles*	10
Newbecker, C. G.,	*Hanford*	8
Newcomb, A. T.,	*Pasadena*	10
Newell, E.,	*San Jose*	28
Newell, R. R.,	*San Francisco*	23
Newkirk, H. D.,	*Anaheim*	16
Newman, A.,	*San Francisco*	23
Newman, H. W.,	*San Francisco*	23
Newman, L.,	*San Francisco*	23
Newman, M. H.,	*Los Angeles*	10
Newman, R. W.,	*Suisun*	32
Newman, W. H.,	*San Diego*	22
Newman, W. W.,	*San Francisco*	23
Newmark, P.,	*Los Angeles*	10
Newson, H. E.,	*San Francisco*	23
Newton, A. H.,	*Yreka*	31
Newton, E. B.,	*Oakland*	1
Newton, H. D.,	*San Diego*	22
Newton, W. C.,	*San Dicgo*	22
Nicholas, C. Z.,	*Santa Barbara*	27
Nichols, F. C.,	*Santa Monica*	10
Nichols, J. N.,	*Los Angeles*	10
Nichols, R. C.,	*Ontario*	21
Nichols, R. E.,	*Woodland*	38
Nichols, W. E.,	*Pasadena*	10
Nicholson, J.,	*Los Angeles*	10
Nicholson, J. W.,	*Porterville*	36
Nicholson, R. M.,	*Los Angeles*	10
Nider, G. K.,	*Fresno*	4
Niebel, H. L.,	*Palo Alto*	28
Niebergall, H. A.,	*Los Angeles*	10
Nielsen, H. W.,	*Fowler*	4
Nielsen, J. C. E.,	*San Diego*	22
Nielsen, J. M.,	*Los Angeles*	10
Nielsen, J. W.,	*San Luis Obispo*	25
Niemand, F. G.,	*San Francisco*	23
Nies, A.,	*Orange*	16
Nies, C. A.,	*Los Angeles*	10
Nippert, E. F.,	*Los Angeles*	10
Nittler, A. N.,	*Santa Cruz*	29
Nixon, N. K.,	*Los Angeles*	10
Noall, E. T.,	*Santa Rosa*	33
Noble, B. E.,	*Los Angeles*	10
Noble, C. A., Jr.,	*San Francisco*	23
Noble, T. E.,	*Long Beach*	10
Noetling, P. R.,	*Angels Camp*	24
Noggle, G. E.,	*Chino*	21
Nolan, O. F.,	*San Francisco*	23
Nolan, T. J.,	*San Francisco*	23
Norman, G. F.,	*Eureka*	5
Norris, C. E.,	*Eureka*	5
Norris, W. J.,	*Los Angeles*	10
Northrop, R. S.,	*Napa*	15
Northway, W. H.,	*Stanford Univ*	28
Norwood, G. E.,	*Covina*	10
Novy, F. G.,	*Oakland*	1
Noyes, F. Le G.,	*Los Angeles*	10
Nuttall, J. P.,	*Santa Monica*	10
Nutting, F. J.,	*Santa Monica*	10
Nutting, R. J.,	*Oakland*	1
Nuzum, F. R.,	*Santa Barbara*	27

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NAME	CITY	COUNTY SOCIETY NO.
Oakleaf, D. C.,	*Cloverdale*	33
Oatman, H. C.,	*San Diego*	22
O'Brien, G.,	*Sacramento*	19
O'Brien, H. J.,	*Los Angeles*	10
O'Brien, J. J.,	*Los Angeles*	10
O'Brien, J. W.,	*Sacramento*	19
O'Connor, G. B.,	*San Francisco*	23
O'Connor, J. H.,	*San Francisco*	23
O'Connor, J. J.,	*Los Angeles*	10
O'Connor, R. P.,	*Oakland*	1
O'Connor, T. C., Jr.,	*Murphy*	24
O'Connor, T. H.,	*San Francisco*	23
O'Donnell, E. W.,	*Los Angeles*	10
O'Donnell, F. J.,	*Stockton*	24
O'Donnell, J. M.,	*Hollister*	20
Oechsli, W. R.,	*Olive View*	10
Offield, A. L.,	*Burlingame*	26
O'Grady, W. E.,	*San Francisco*	23
Ohannesian, F.,	*Sacramento*	19
Ohanneson, J.,	*Alameda*	1
O'Hara, F. P.,	*San Diego*	22
O'Hara, J. J.,	*San Diego*	22
Ohnemuller, C. E.,	*Los Angeles*	10
Okami, S.,	*Terminal Island*	10
Okonogi, B.,	*Fresno*	4
Oldenbourg, L. A.,	*Berkeley*	1
Olberg, F. H.,	*Redding*	30
Olds, W. H.,	*Los Angeles*	10
Oliver, H. R.,	*San Francisco*	23
Oliver, J. V.,	*Palm Springs*	18
Oliver, W. A.,	*San Francisco*	23
Olmsted, R. C.,	*Pasadena*	10
Olsen, C. W.,	*Los Angeles*	10
Olsen, D. M. R.,	*Berkeley*	1
Olsen, E. R.,	*San Francisco*	23
Olsen, R. S.,	*Los Angeles*	10
Olsen, S.,	*San Francisco*	23
Olsen, X.,	*San Bernardino*	21
Olson, G. M.,	*Los Angeles*	10
Olson, G. W.,	*Fullerton*	16
Omelvena, J. G.,	*San Diego*	22
O'Neill, B. J., Jr.,	*San Diego*	22
O'Neill, J. N.,	*Los Angeles*	10
O'Neill, T. J.,	*Los Angeles*	10
Onesti, S. J.,	*San Francisco*	23
Oppenheimer, L. I.,	*Oakland*	1
Orbison, T. J.,	*Los Angeles*	10
Orcutt, A. H.,	*Oakland*	1
Orella, F. R.,	*San Francisco*	23
Ormsby, E. A.,	*Centerville*	1
Orr, J.,	*Oakland*	1
Osborn, H. B.,	*Fillmore*	37
Osborne, C. J.,	*San Diego*	22
Osburn, J. N. N.,	*Los Angeles*	10
Ostroff, R. A.,	*San Francisco*	23
Otis, M. R.,	*Los Angeles*	10
Ott, E. R.,	*Berkeley*	1
Ottinger, M. R.,	*San Francisco*	23
Otto, F. W.,	*Los Angeles*	10
Oviedo, G. F.,	*San Francisco*	23
Owen, C. C.,	*San Bernardino*	21
Owen, C. S.,	*National City*	22
Owen, E. D.,	*San Francisco*	23
Owen, G. R.,	*Los Angelcs*	10
Owens, R. L.,	*Lodi*	24
Owens, W. R.,	*Glendale*	10
Oyler, J. D.,	*Los Angeles*	10

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NAME	CITY	COUNTY SOCIETY NO.
Pace, P. T.,	*San Jose*	28
Packard, L. A.,	*Bakersfield*	7
Padden, E. H.,	*Alameda*	1
Padgett, V. W.,	*Alleghany*	17
Paez, J.,	*San Diego*	22
Page, B: H.,	*San Mateo*	26
Page, C. W.,	*Berkeley*	1
Page, W. E.,	*Oakland*	1
Pahl, P. C. H.,	*Los Angeles*	10
Paige, G. A.,	*Anaheim*	16
Paine, N. C.,	*Glendale*	10
Palamountain, W. B.,	*Oakland*	1
Pallais, A.,	*Los Angeles*	10
Pallesen, V. W.,	*Walnut Grove*	19
Pallette, E. C.,	*Los Angeles*	10
Pallette, E. M.,	*Los Angeles*	10
Palmer, B. M.,	*Oakland*	1
Palmer, C. B.,	*San Francisco*	23
Palmer, E. O.,	*Hollywood*	10
Palmer, R. S.,	*Pomona*	10
Palmer, W. B.,	*Long Beach*	10
Paretzky, M.,	*Los Angeles*	10
Parizek, F. J.,	*Los Angeles*	10
Park, D. B.,	*Vallejo*	32
Parker, A. S.,	*Merced*	13
Parker, C. H.,	*Pasadena*	10
Parker, G.,	*Salinas*	14
Parker, H. R.,	*Oakland*	1
Parker, J. A.,	*Merced*	13
Parker, J. A.,	*Los Angeles*	10
Parker, J. T.,	*Oakland*	1
Parker, L. O.,	*San Francisco*	23
Parker, T. A.,	*La Jolla*	22
Parkin, V.,	*Los Angeles*	10
Parkinson, R. H.,	*San Francisco*	23
Parkinson, S. N.,	*Oakland*	1
Parkinson, S. R.,	*Marysville*	39
Parkinson, W. B.,	*Tulare*	36
Parks, B. K.,	*Long Beach*	10
Parks, F. R.,	*Los Angeles*	10
Parowski, S. A.,	*San Diego*	22
Parrish, C. R.,	*Los Angeles*	10
Parrish, G.,	*Los Angeles*	10
Parrott, J. C.,	*San Francisco*	23
Parsons, E. W.,	*Vienna, Austria*	23
Parsons, H. H.,	*Anniston, Alabama*	21
Parsons, J. E.,	*Dixon*	38
Parsons, J. J.,	*Monrovia*	10
Parsons, S. R.,	*Santa Barbara*	27
Partch, W. T.,	*Oakland*	1
Pasette, S. E.,	*Los Angeles*	10
Patek, S. D.,	*San Francisco*	23
Paterson, F. H.,	*Santa Ana*	16
Patrick, M. A.,	*Los Angeles*	10
Patterson, G. H.,	*Los Angeles*	10
Patterson, G. L.,	*Santa Rosa*	33
Patterson, J. A.,	*San Bernardino*	21
Patton, E. F.,	*Los Angeles*	10
Patton, R. F.,	*Mecca*	10
Paul, S. B.,	*San Francisco*	23
Paull, R. A.,	*La Jolla*	22
Paulson, G. A.,	*Ada, Okla*	16
Paxman, D. G.,	*Oakland*	1
Payton, W. B.,	*Riverside*	18
Pchelkin, N. A.,	*San Francisco*	23
Pearce, C. M.,	*Oakland*	1
Pearce, W. M.,	*Wilmington*	10
Pearl, F. A.,	*Los Angeles*	10
Pearl, F. L.,	*San Francisco*	23
Pearson, B. S.,	*Los Angeles*	10
Pearson, C. E.,	*Turlock*	34
Pearson, E. A.,	*Los Angeles*	10
Pearson, R. G.,	*Sacramento*	19

NAME	CITY	COUNTY SOCIETY NO.
Peddicord, H.	*Redwood City*	26
Peers, R. A.	*Colfax*	17
Peers, R. S.	*Oakland*	1
Peery, J. T.	*Corcoran*	8
Peery, L. T.	*Berkeley*	1
Peirsol, E. C.	*Claremont*	10
Pelkan, K. F.	*San Jose*	28
Peluso, J. D.	*Los Angeles*	10
Pendergrass, C. I.	*Clovis*	4
Pendergrass, J. E.	*Clovis*	4
Pendleton, W. C.	*Los Angeles*	10
Pendleton, W. R.	*Long Beach*	10
Penn, L. L.	*San Francisco*	23
Pennington, A. S.	*San Francisco*	23
Peoples, S. Z.	*Petaluma*	33
Peppers, C. H.	*Los Angeles*	10
Percy, J. F.	*Los Angeles*	10
Perkins, W. A.	*Oakland*	1
Perry, C. G.	*Sausalito*	11
Perry, I. H.	*San Francisco*	23
Perry, J. R.	*Beverly Hills*	10
Perzik, S. L.	*Los Angeles*	10
Petch, P. H.	*Oakland*	1
Peters, C.	*San Francisco*	23
Peters, C. E.	*Oakland*	1
Peters, L.	*Alameda*	1
Petersen, H. C.	*Stockton*	24
Petersen, H. E.	*San Fernando*	10
Peterson, A.	*Los Angeles*	10
Peterson, E. A.	*Vallejo*	32
Peterson, F. W.	*El Centro*	6
Peterson, J. B.	*Los Angeles*	10
Petr, F.	*Turlock*	34
Petter, R. S.	*Los Angeles*	10
Pettis, J. H.	*Fresno*	4
Pettit, A. V.	*San Francisco*	23
Pettler, S. H.	*Los Angeles*	10
Petty, C. O.	*Fullerton*	16
Pfeiffer, H. W.	*La Mesa*	22
Pflueger, O. H.	*San Francisco*	23
Phelan, C. A.	*San Francisco*	23
Phillips, A. D.	*Sacramento*	19
Phillips, A. L.	*Santa Cruz*	29
Phillips, C. E.	*Los Angeles*	10
Phillips, L. F. E.	*Palo Alto*	28
Philp, W. S.	*Los Angeles*	10
Pickard, R. J.	*San Diego*	22
Pidcock, J. W.	*Hollywood*	10
Pier, H. McK.	*Oakland*	1
Pierce, G. W.	*San Francisco*	23
Pierce, H. F.	*Santa Barbara*	27
Pierce, S. N.	*Los Angeles*	10
Pierson, P. H.	*San Francisco*	23
Pillsbury, S. G.	*Long Beach*	10
Pimentel, G. B.	*Los Banos*	13
Pindell, M. L.	*Los Angeles*	10
Pindler, L. A.	*Los Angeles*	10
Piness, G.	*Los Angeles*	10
Pinkham, C. B.	*San Francisco*	23
Pinkley, V. M.	*San Bernardino*	21
Pinney, I.	*Stockton*	24
Pinto, H. E.	*Talmage*	12
Piper, H. E.	*Santa Cruz*	29
Pischel, D. K.	*San Francisco*	23
Pischel, K.	*San Francisco*	23
Piscitelli, A. M.	*San Francisco*	23
Pitts, E. H.	*Sacramento*	19
Pius, C.	*Yreka*	31
Plank, T. H.	*San Francisco*	23
Plath, H. W.	*Oakland*	1
Platt, J. E.	*Pasadena*	10
Player, L. P.	*San Francisco*	23
Pleth, V.	*Santa Rosa*	33
Plimpton, E. B.	*Los Angeles*	10
Plymire, D. B.	*San Francisco*	23
Poage, C. A.	*Colusa*	38
Podstata, V. H.	*San Francisco*	1
Polesky, F. A.	*Los Angeles*	10
Poley, C. W.	*Los Angeles*	10
Poliak, P. P.	*Agnew*	28
Polland, W. S.	*San Rafael*	11
Pollia, J. A.	*Los Angeles*	10
Pollock, W. E.	*Sacramento*	19
Pomeroy, F. K.	*Fresno*	4
Pomeroy, G. T.	*Yountville*	15
Pomeroy, J. L.	*Los Angeles*	10
Pond, S. B.	*Patton*	21
Poole, F. H.	*Santa Cruz*	29
*Poole, R. E.	*Yountville*	15
Pope, W. H.	*Sacramento*	19
Porter, C. C.	*San Francisco*	23
Porter, E. E.	*San Jose*	28
Porter, E. B.	*Coronado*	22
Porter, J. A.	*Modesto*	34
Porter, M. E.	*Eldridge*	33
Porter, R. L.	*San Francisco*	23
Porter, W. S.	*Oakland*	1
Post, J. O.	*Los Angeles*	10
Poston, H. P.	*Pasadena*	10
Pottenger, F. M.	*Monrovia*	10
Pottenger, F. M., Jr.	*Monrovia*	10
Pottenger, J. E.	*Monrovia*	10
Pottenger, R. T.	*Pasadena*	10
Potter, A.	*San Francisco*	23
Potter, C. D.	*San Francisco*	23
Potter, G.	*Oakland*	1
Potter, M. J. M.	*San Diego*	22
Potter, W. H.	*San Diego*	22
Pouppirt, P. S.	*San Francisco*	23
Powell, A.	*Lafayette*	1

NAME	CITY	COUNTY SOCIETY NO.
Powell, B. J.	*Stockton*	24
Powell, B. J., Jr.	*Stockton*	24
Powell, D. R.	*Stockton*	24
Powell, R. C.	*Richmond*	3
Powell, W. A.	*Orinda*	3
Powers, A. R.	*Tracy*	24
Powers, R. A.	*Palo Alto*	28
Pratt, B. H.	*Lemoore*	8
Pratt, E. D.	*Burbank*	10
Pratt, M. D.	*Fall River Mills*	30
Pratt, O. B.	*Los Angeles*	10
Pratt, T. R.	*Ahwahnee*	13
Premo, M. A.	*San Jose*	28
Presler, H. M.	*San Diego*	22
Pressley, J. F.	*San Francisco*	23
Pressman, J. J.	*Los Angeles*	10
Preston, A. W.	*Visalia*	36
Preuss, C. A.	*Santa Barbara*	27
Price, L. G.	*Fresno*	4
Prien, R. H.	*Gilroy*	28
Priestley, S. F.	*Stockton*	24
Prigge, E. K.	*Los Angeles*	10
Prince, L. D.	*San Francisco*	23
Prince, P. W.	*Long Beach*	10
Prince, R. W.	*San Bernardino*	21
Pritchard, F. H.	*Colton*	21
Pritchard, J. L.	*San Jose*	28
Pritchard, W. F.	*San Bernardino*	21
Proctor, D. T.	*Olive View*	10
Proescher, F.	*San Jose*	28
Profant, H. J.	*Santa Barbara*	27
Proudfoot, C. P.	*San Luis Obispo*	25
Pruett, H. J.	*San Francisco*	23
Pruett, J. F.	*San Francisco*	23
Pryor, H. B.	*Palo Alto*	28
Pulford, D. S.	*Sacramento*	19
Purdy, A. P.	*San Francisco*	23
Purlenky, G. P.	*Arcata*	5
Pursell, F. J.	*Los Angeles*	10
Purviance, C. C.	*Fairfield*	32
Putnam, H. A.	*Monrovia*	10
Putnam, V.	*San Francisco*	23

— Q —

NAME	CITY	COUNTY SOCIETY NO.
Quaintance, P. A.	*Los Angeles*	10
Quarry, P. T.	*Santa Rosa*	33
Quimby, S. A.	*Madera*	4
Quinan, C.	*San Francisco*	23
Quinlan, C. M.	*Santa Rosa*	33
Quinlan, J. F.	*San Francisco*	23
Quinn, E. M.	*Vallejo*	32
Quinn, T. D'A.	*San Francisco*	23
Quinn, V. J.	*Los Angeles*	10
Quinn, W.	*San Francisco*	23
Quinn, W. J.	*Eureka*	5

— R —

NAME	CITY	COUNTY SOCIETY NO.
Rabinowitz, R.	*San Francisco*	23
Rabwin, M. H.	*Los Angeles*	10
Racer, F. H.	*Lomita*	10
Radford, E. B.	*Walnut Creek*	3
Ragan, S. T.	*Hollywood*	10
Railsback,, O. C.	*Woodland*	38
Raitt, G. E.	*Santa Ana*	16
Rajotte, E. C. F.	*San Francisco*	23
Rambo, W. H.	*Los Angeles*	10
Rammelt, W.	*Los Angeles*	10
Ramsay, R. E.	*Pasadena*	10
Rand, C. W.	*Los Angeles*	10
Randall, S. B.	*Santa Cruz*	29
Randel, H. A.	*Fresno*	4
Raney, R. B.	*Los Angeles*	10
Rankin, A. H.	*San Francisco*	23
Rankin, E. P.	*Berkeley*	1
Ransom, D. H.	*Madera*	4
Ransom, J. K.	*Modesto*	34
Ranson, J. R.	*San Luis Obispo*	25
Rapaport, H.	*Los Angeles*	10
Rapaport, W.	*Oakland*	1
Rasor, C.	*Oakland*	1
Rathbone, R. H.	*Los Angeles*	10
Rathbun, W. T.	*Colusa*	38
Ratliff, H. L.	*Riverside*	18
Ratner, R.	*San Francisco*	23
Ratty, F. J.	*San Diego*	22
Raulston, B. O.	*Los Angeles*	10
Ravenscroft, J. W.	*San Diego*	22
Rawlins, A. G.	*San Francisco*	23
Ray, E. B.	*Bellflower*	10
Ray, F. S.	*Los Angeles*	10
Ray, H. H.	*San Mateo*	26
Ray, L.	*Santa Rosa*	33
Raymond, A.	*San Francisco*	23
Rea, B. J.	*Sacramento*	19
Rea, R. R.	*Los Angeles*	10
Rea, S. L.	*Ukiah*	12
Rea, T.	*Yreka*	31
Read, F. T.	*Glendale*	10
Read, J. M.	*San Francisco*	23
Ready, F. L.	*Los Angeles*	10
Ream, G. D.	*Albany*	1
Ream, M. P.	*San Leandro*	1
Reamer, E. F.	*Modesto*	34
Reardon, F. B.	*Sacramento*	19
Reasner, W. F.	*Santa Monica*	10
Rebec, W. G.	*Belmont*	26
Reckers, W. A.	*Placerville*	19
Rector, J. M.	*San Francisco*	23
Redelings, L. H.	*San Diego*	22
Redmond, M. H.	*Huntington Park*	10

NAME	CITY	COUNTY SOCIETY NO.
Reed, A. C.	*San Francisco*	23
Reed, C. C.	*Compton*	10
Reed, E. N.	*Santa Monica*	10
Reed, J. R.	*Pasadena*	10
Reed, W. W.	*Nevada City*	17
Reeder, C. W.	*Long Beach*	10
Rees, C. E.	*San Diego*	22
Rees, C. W.	*San Diego*	22
Rees, D. M.	*Monterey Park*	10
Rees, H. C.	*Los Angeles*	10
Rees, R. B.	*Bakersfield*	7
Reeves, E. W.	*Salinas*	14
Reeves, J. M.	*Oakland*	1
Reeves, J. W.	*Los Angeles*	10
Reeves, W. R.	*Salinas*	14
Regan, L. J.	*Los Angeles*	10
Rehfisch, J. M.	*San Francisco*	23
Reich, A., Jr.	*Palo Alto*	28
Reich, W. W.	*Berkeley*	1
Reiche, C.	*Los Angeles*	10
Reichert, F. L.	*San Francisco*	23
Reid, R. B.	*Beaumont*	18
Reid, R. S.	*Oceanside*	22
Reilly, P. H.	*Vallejo*	32
Reilly, W.	*San Francisco*	23
Reilly, W. A.	*San Francisco*	23
Reina, S.	*Los Angeles*	10
Reinard, E.	*Los Angeles*	10
Reinard, L.	*Los Angeles*	10
Reinertsen, B. R.	*Los Angeles*	10
Reinle, G. G.	*Oakland*	1
Reis, A. G. DeS.	*Oakland*	1
Reische, A. E.	*Oakland*	1
Reiss, O.	*Los Angeles*	10
Reitzel, R. J.	*San Mateo*	26
Remington, L. D.	*Monrovia*	10
Remmel, A. J.	*San Francisco*	23
Remmen, E. T.	*Glendale*	10
Renner, J. H.	*Santa Barbara*	27
Renz, C.	*San Francisco*	23
Ress, I. LeR.	*Los Angeles*	10
Rethwilm, L. A.	*San Francisco*	23
Reud, W. R.	*Oakland*	1
Rey, H. F,.	*Oxnard*	37
Reynolds, C. E.	*Venice*	10
Reynolds, H. C.	*Arlington*	18
Reynolds, L. G.	*Los Angeles*	10
Reynolds, L. R.	*San Francisco*	23
Reynolds, P. A.	*Los Angeles*	10
Reynolds, R. A.	*San Francisco*	23
Reynolds, T. E.	*Oakland*	1
Rhodes, G. K.	*San Francisco*	23
Rhymes, L. H.	*Canoga Park*	10
Riach, M. T.	*San Diego*	22
Rice, C. H.	*Oakland*	1
Rice, F. M.	*San Francisco*	23
Rice, P.	*Los Angeles*	10
Richards, C. M.	*San Jose*	28
Richards, D. N.	*Oakland*	1
Richards, S. B.	*San Bernardino*	21
Richardson, G. C.	*Sonora*	24
Richter, C.	*Balboa Beach*	16
Richter, I. M.	*Santa Barbara*	27
Rickabaugh, H. B.	*Alhambra*	10
Rickard, J. F.	*San Francisco*	23
Rigdon, R. L.	*San Francisco*	23
Riggin, L. L.	*Pasadena*	10
Righetti, E.	*San Francisco*	23
Righetti, H.	*San Francisco*	23
Rinkenberger, F. W.	*Los Angeles*	10
Rinne, F. A.	*San Francisco*	23
Risley, E. H.	*Loma Linda*	21
Rixford, E.	*San Francisco*	23
Rixford, E. L., Jr.	*San Francisco*	23
Roath, C.	*Los Angeles*	10
Robarts, H. P.	*San Francisco*	23
Robbins, A. C.	*Garden Grove*	16
Robbins, A. R.	*Los Angeles*	10
Robbins, B.	*Hanford*	8
Robbins, D. R.	*Los Angeles*	10
Roberts, A. M.	*Los Angeles*	10
Roberts, E. K.	*Los Angeles*	10
Roberts, G. J.	*Pomona*	10
Roberts, G. W.	*Oakland*	1
Roberts, J. G.	*Pomona*	10
Roberts, J. M.	*Los Angeles*	10
Roberts, W. H.	*Pasadena*	10
Robertson, D. L.	*Modesto*	34
Robertson, G.	*San Francisco*	23
Robertson, H. R.	*Los Angeles*	10
Robertson, J. C.	*Modesto*	34
Robertson, J. W., Jr.	*Livermore*	1
Robertson, R. R.	*San Rafael*	11
Robinson, J.	*Anaheim*	16
Robinson, J. H.	*Los Angeles*	10
Robinson, J. W.	*Los Angeles*	10
Robinson, L. L.	*San Rafael*	11
Robinson, S. P.	*Santa Barbara*	27
Robinson, S. S.	*Los Angeles*	10
Robison, L. H.	*Los Angeles*	10
Roblee, W. W.	*Riverside*	18
Rochex, F. J.	*San Francisco*	23
Rodenbaugh, F. H.	*San Francisco*	23
Rodin, F. H.	*San Francisco*	23
Roen, P. B.	*Hollywood*	10
Roger, J. H. D.	*San Francisco*	23
Rogers, A. M.	*Los Angeles*	10
Rogers, E. L.	*Cypress*	16
Rogers, H.	*Oakland*	1
Rogers, H.	*Bakersfield*	7
Rogers, H. S.	*Petaluma*	33
Rogers, J. A.	*San Francisco*	23

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Rogers, J. B.	*Imola*	15
Rogers, J. B.	*Los Angeles*	10
Rogers, L. B.	*Los Angeles*	10
Rogers, S.	*Tulare*	36
Rogers, W. G.	*Los Angeles*	10
Rogers, W. L.	*San Francisco*	23
Rohlfes, B. J.	*San Francisco*	23
Rohrbacher, G. H.	*Stockton*	24
Roller, C. S.	*Colusa*	38
Rolph, W. D.	*National City*	22
Roncovieri, L.	*San Francisco*	23
Rood, V. V.	*Grass Valley*	17
Rood, R. S.	*Davenport*	29
Rook, C. W.	*Montrose*	10
Roome, C. T.	*Santa Barbara*	27
Rooney, C. E.	*Santa Monica*	10
Rooney, H. M.	*Los Angeles*	10
Roos, A. R.	*Loma Linda*	21
Roos, D. D.	*Corona*	18
Root, P. N.	*Bakersfield*	7
Root, R. R.	*Corona*	18
Rosanoff, A. J.	*Los Angeles*	10
Rosasco, O. L.	*Saratoga*	28
Rosburg, A. H.	*San Francisco*	23
Roscoe, A. M.	*Newman*	34
Rose, H. de W.	*Sonora*	24
Rose, J. T.	*Healdsburg*	33
Rose, L. M.	*Santa Clara*	28
Rosenberg, M. N.	*Sawtelle*	10
Rosenberger, H. G.	*Whittier*	10
Rosenblatt, J.	*Duarte*	10
Rosenblum, D. H.	*Los Angeles*	10
Rosenblum, H. H.	*San Francisco*	23
Rosencrantz, E.	*San Francisco*	23
Rosenfeld, M. H.	*Los Angeles*	10
Rosenkranz, H. A.	*Los Angeles*	10
Rosenthal, A. G.	*San Francisco*	23
Rosoff, J. A.	*Compton*	10
Rosove, L.	*Santa Monica*	10
Ross, K. F.	*Los Angeles*	10
Ross, M. H.	*Los Angeles*	10
Ross, S. G.	*Pasadena*	10
Ross, V. R.	*Stockton*	24
Rosson, C. T.	*Hanford*	8
Rosson, R. W.	*Tulare*	36
Roth, E. F.	*Palo Alto*	28
Roth, G. H.	*Los Angeles*	10
Rothman, P. E.	*Los Angeles*	10
Rothschild, M.	*San Francisco*	23
Rothwell, W. T.	*Los Angeles*	10
Rouff, E.	*Salinas*	14
Rouse, D. E.	*Olive View*	10
Rover, H. P.	*Los Angeles*	10
Rowe, A. H.	*Oakland*	1
Rowe, C. H.	*Oakland*	1
Rowe, M. J.	*Norwalk*	10
Rowell, H. N.	*Berkeley*	1
Rowell, W. A.	*Trinity Center*	3
Royer, J. E.	*Oakland*	1
Royston, E. A.	*Los Angeles*	10
Rubenstein, C. L.	*San Francisco*	23
Rubin, J. S.	*Los Angeles*	10
Rubinstein, I.	*Los Angeles*	10
Ruddock, J. C.	*Los Angeles*	10
Ruddy, L. W.	*Sacramento*	19
Rude, A. E.	*Los Angeles*	10
Ruediger, E. H.	*San Diego*	22
*Ruediger, G. F.	*Pasadena*	10
Rueter, K.	*Oakland*	1
Ruff, F. R.	*Fresno*	4
Ruggles, H. E.	*San Francisco*	23
Rukke, G. V.	*Monterey*	14
Rulison, E. T.	*Sacramento*	19
Rumph, P. E.	*Orange*	16
Runckel, G. H.	*McCloud*	31
Runner, J. F.	*San Francisco*	23
Rusche, C. F.	*Hollywood*	10
Rush, R. C.	*San Fernando*	10
Russell, E. L.	*Santa Ana*	16
Russell, F. C.	*San Diego*	22
Russell, J. A.	*Auburn*	17
Russell, W. W.	*San Diego*	22
Ruth, E. S.	*Hollywood*	10
Rutherford, F. de P.	*Santa Clara*	28
Ryan, A. F.	*Los Angeles*	10
Ryan, A. J.	*Vallejo*	32
Ryan, A. M.	*San Francisco*	23
Ryan, F. S.	*San Jose*	28
Ryan, R. C.	*San Francisco*	23
Ryder, B. E.	*Los Angeles*	10
Rypins, R. F.	*San Francisco*	23

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NAME	CITY	COUNTY SOCIETY NO.
Saam, J. G.	*Oakland*	1
Sabichi, G. C.	*Claremont*	10
Safarik, E. S.	*Los Angeles*	10
Saffro, L. B.	*San Pedro*	10
Saier, M. H.	*Palo Alto*	28
Sale, J. J.	*San Francisco*	23
Salisbury, C. S.	*Los Angeles*	10
Salomon, E.	*San Francisco*	23
Salter, N. M.	*Williams*	38
Sample, T. N.	*Fresno*	4
Sampson, J. J.	*San Francisco*	23
Sampson, J. A.	*Los Angeles*	10
Sampson, J. P.	*Santa Monica*	10
Sampson, M. H.	*Berkeley*	1
Sampson, P. M.	*Long Beach*	10
Sanderson, G. H.	*Stockton*	24
Sandholt, J. P.	*Monterey*	14
Sandie, J.	*Los Angeles*	10
Sands, R. A.	*Ocean Park*	10
Sands, R. L.	*Santa Monica*	10
Sanford, H. E.	*Montrose*	10
Sanford, J. R.	*Pasadena*	10
Sansum, W. D.	*Santa Barbara*	27
Sappington, E. E.	*San Francisco*	23
Sargent, W. H.	*Oakland*	1
Sartori, H. J.	*San Francisco*	23
Sasso, J. A.	*Los Angeles*	10
Sauber, I. E.	*Los Angeles*	10
Sauer, F. J.	*Los Angeles*	10
Saulsberry, C. E.	*New Brunswick, New Jersey*	16
Saunders, C. E.	*San Jose*	28
Savage, J. C.	*Los Angeles*	10
Savage, P. M.	*San Bernardino*	21
Savage, P. M., Jr.	*San Bernardino*	21
Savage, S. H.	*Lancaster*	10
Savage, W. W.	*San Bernardino*	21
Sawyer, F. E.	*Oakland*	1
Saylin, G. J.	*Los Angeles*	10
Saylor, B. F.	*Redding*	30
Scamell, J. W.	*Oakland*	1
Scanland, J. M.	*Agnew*	28
Scanlon, W. G.	*Pasadena*	10
Scarboro, E. R.	*Fresno*	4
Scatena, F. N.	*Sacramento*	19
Schaefer, J. W.	*Los Angeles*	10
Schaeffer, R. W.	*Redondo Beach*	10
Schaller, W. F.	*San Francisco*	23
Shallig, D. W.	*Sacramento*	19
Schaper, E. A.	*Keene*	7
Schaupp, K. L.	*San Francisco*	23
Schefcik, J. F.	*Los Angeles*	10
Scheier, R. B.	*San Francisco*	23
Schell, J. P.	*San Jose*	28
Schenck, G. F.	*Los Angeles*	10
Scherfee, J. F.	*Los Angeles*	10
Schiffbauer, H. E.	*Los Angeles*	10
Schiller, M. M.	*Los Angeles*	10
Schilling, W.	*San Francisco*	23
Schlageter, H. J.	*San Francisco*	23
Schlappi, J. C.	*San Diego*	22
Schlotthauer, H. L.	*Tehachapi*	7
Schlotthauer, M. Q.	*Tehachapi*	7
Schluter, H. F.	*Sacramento*	19
Schmelz, C. J.	*Guerneville*	33
Schmid, C. F.	*Hermosa Beach*	10
Schmidt, A. E.	*San Francisco*	23
Schmidt, D. A.	*Los Angeles*	10
Schmidt, D. G.	*San Quentin*	11
Schmidt, E. J.	*Fresno*	4
Schmidt, F. M.	*Los Angeles*	10
Schmitt, E. O. G.	*San Jose*	28
Schmitt, H. H.	*Gilroy*	28
Schmitt, L. S.	*San Francisco*	23
Schmoele, J. M.	*Los Angeles*	10
Schneider, E. H.	*Los Angeles*	10
Schoff, C. E.	*Sacramento*	19
Schofield, R. O.	*Boulder City, Nev.*	17
Scholl, A. J.	*Los Angeles*	10
Scholtz, M.	*Los Angeles*	10
Scholz, A. M.	*Los Angeles*	10
Schomaker, T. P.	*San Francisco*	23
Schoonmaker, G. D.	*San Francisco*	23
Schott, H. J.	*Los Angeles*	10
Schottstaedt, W. E. R.	*Fresno*	4
Schreiber, L. W.	*Santa Monica*	10
Schroeder, F. B.	*San Diego*	22
Schroeder, L. A.	*Los Angeles*	10
Schultz, C. E.	*Castroville*	14
Schultz, H. H.	*San Francisco*	23
Schultz, L. O.	*Glendale*	10
Schulz, R. L.	*Los Angeles*	10
Schulze, M.	*San Francisco*	23
Schumacher, I. C.	*San Francisco*	23
Schurmeier, H. L.	*Santa Barbara*	27
Schussler, H., Jr.	*San Francisco*	23
Schwalenberg, H. R.	*Santa Barbara*	27
Schwartz, F. L.	*San Diego*	22
Schwartzman, H.	*Havre, Montana*	1
Schwarz, J.	*San Francisco*	23
Schwarz, T. E.	*Oakland*	1
Schwuchow, W. B.	*Los Angeles*	10
Sciaroni, G. H.	*Fresno*	4
Scobee, J. E.	*Los Angeles*	10
Scoins, W. H.	*Los Angeles*	10
Scott, A. J., Jr.	*Los Angeles*	10
Scott, F. L.	*Los Angeles*	10
Scott, J. T.	*San Diego*	22
Scott, R. R.	*Selma*	4
Scott, W. E.	*San Francisco*	23
Scovel, R. E.	*San Francisco*	23
Scudder, R.	*Fort Bragg*	12
Scuderi, S. A.	*Los Angeles*	10
Seabolt, G. C.	*South Pasadena*	10
Seals, P. W.	*Los Angeles*	10
Searls, H. H.	*San Francisco*	23
Seaver, H. C.	*Los Angeles*	10
Seavey, M. A.	*Sacramento*	19
Seawell, J. W.	*Healdsburg*	33
Sebastian, C. F.	*Los Angeles*	10
Sedgwick, V. de M.	*Long Beach*	10
Seeburt, E M. P.	*San Francisco*	23
Seech, S. G.	*Los Angeles*	10
Seeley, L. J.	*Fort Jones*	31
Segall, G.	*Los Angeles*	10
Seiberth, J.	*Pixley*	36
Seid, M. J.	*San Francisco*	23
Seiger, H. W.	*Los Angeles*	21
Seitz, R. P.	*San Francisco*	23
Sekiyama, I.	*Los Angeles*	10
Seletz, R.	*Los Angeles*	10
Seligman, L. J.	*Los Angeles*	10
Sellery, A. C.	*Long Beach*	10
Sellery, C. M.	*Los Angeles*	10
Sellew, P. K.	*Los Angeles*	10
Sellon, G. I.	*Fullerton*	16
Semenov, H.	*Los Angeles*	10
Servin, C.	*Los Angeles*	10
Settle, F. B.	*Long Beach*	10
Setzler, G. B.	*Los Angeles*	10
Sevenman, G. W.	*San Mateo*	26
Sevier, E.	*Sacramento*	19
Sewall, E. C.	*San Francisco*	23
Seymour, E. C.	*Olive View*	10
Shackford, B. C.	*Long Beach*	10
Shade, M. A.	*Oakland*	1
Shafer, F. P.	*Los Angeles*	10
Shaffer, C. J.	*Huntington Park*	10
Shafor, H. A.	*Los Angeles*	10
Shaghoian, A. H.	*Daly City*	26
Shahovitch, G. P.	*Los Angeles*	10
Shambaugh, N. F.	*Long Beach*	10
Shapiro, N. H.	*San Francisco*	23
Sharp, G. S.	*Pasadena*	10
Sharp, J. C.	*San Jose*	28
Sharp, J. G.	*San Francisco*	23
Sharp, K. F.	*Fresno*	4
Sharp, R. G.	*San Diego*	22
Sharpe, O. A.	*San Francisco*	26
Sharpsteen, J. R.	*Oakland*	1
Shattinger, C.	*Los Altos*	28
Shaull, E. M.	*Palo Alto*	28
Shaw, E. B.	*San Francisco*	23
Shaw, H. N.	*Los Angeles*	10
Shaw, L. O.	*Walnut Park*	10
Shea, J. F.	*San Francisco*	23
Shea, T. T.	*San Francisco*	23
Sheafe, E. V.	*Oakland*	1
Sheehy, F. T.	*San Francisco*	23
Sheets, O. B.	*Los Angeles*	10
Shelby, D. C.	*Los Angeles*	10
Sheldon, E. A.	*Bellflower*	10
Sheldon, E. C.	*Hollister*	20
Sheldon, E. F.	*Los Angeles*	2
Sheldon, F. B.	*Stockton*	24
Sheldon, R. F.	*Long Beach*	10
Sheller, W. O.	*Long Beach*	10
Shelton, E. K.	*Santa Barbara*	27
Shelton, G. C.	*Los Angeles*	10
Shenk, F. P.	*Santa Cruz*	29
Shepard, C. E.	*Stanford University*	28
Shepard, W. P.	*San Francisco*	23
Shepardson, H. C.	*San Francisco*	23
Shephard, J. H.	*San Jose*	28
Shepherd, H. L.	*Los Angeles*	10
Sher, B. H.	*Los Angeles*	10
Sheranian, H. N.	*Los Angeles*	10
Sherman, B. H.	*Hollywood*	10
Sherman, J.	*San Francisco*	23
Sherman, R. S.	*San Francisco*	23
Sherrard, E. E.	*Los Angeles*	10
Sherrick, J. W.	*Oakland*	1
Sherrill, J. W.	*La Jolla*	22
Sherry, L. B.	*Pasadena*	10
Shidler, G. P.	*Torrance*	10
Shields, L.	*Oakland*	1
Shiels, G. F.	*Redwood City*	26
Shilling, J. W.	*Los Angeles*	10
Shipley, R. E.	*Los Angeles*	10
Shipley, W. C.	*Santa Rosa*	33
Shipman, S. J.	*San Francisco*	23
Shirk, F. M.	*La Verne*	10
Shoemaker, H.	*Los Angeles*	10
Shone, L. B.	*San Francisco*	23
Shook, F. M.	*Oakland*	1
Shore, F. A.	*Ventura*	37
Shorkley, T. M.	*Carpinteria*	27
Short, J. E.	*Los Angeles*	10
Shreck, J. A.	*Redlands*	21
Shryock, A.	*Loma Linda*	21
Shufelt, A. A.	*San Jose*	28
Shulman, L.	*Los Angeles*	10
Shultz, E. L.	*Los Angeels*	10
Shumaker, E. K.	*Los Angeles*	10
Shumaker, P. W.	*Los Angeles*	10
*Shuman, J. R.	*Los Angeles*	10
Shuman, J. W.	*Los Angeles*	10
Shumate, C. A.	*San Francisco*	23
Shumate, F. O.	*San Francisco*	23
Shumate, T. E.	*San Francisco*	23
Shutes, M. H.	*Oakland*	1
Sicherman, K. L.	*Los Angeles*	10
Sides, H. E.	*Huntington Park*	10
Siefert, A. C.	*Oakland*	1
Siegmund, F. W.	*Los Angeles*	10
Sigworth, D. C.	*Long Beach*	10
Silliman, J. C.	*Palo Alto*	27
Silverberg, M. H.	*San Francisco*	23
Silverman, D. J.	*Los Angeles*	10
Silvia, C. A.	*Gilroy*	28
Simms, J. S.	*Bellflower*	10
Simons, C. G.	*No. Hollywood*	10
Simonds, P. E.	*Riverside*	18
Simpson, B.	*San Francisco*	23
Simpson, B. R.	*San Diego*	22
Sinclair, A. D.	*San Francisco*	23
Singerman, I.	*Los Angeles*	10
Sink, W. D.	*Santa Maria*	27
Sippy, J. J.	*Stockton*	24

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*Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Sirbu, A. B.,	*San Francisco*	23
Sisson, C. E.,	*Los Angeles*	22
Sisson, M.,	*Oakland*	1
Skaleter, E. A.,	*Los Angeles*	10
Skeel, D. W.,	*Los Angeles*	10
Skelton, L. W.,	*Pasadena*	10
Skillen, J.,	*Olive View*	10
Skilling, L. E.,	*Alameda*	1
Slagerman, V. B.,	*Los Angeles*	10
Slater, H. M.,	*Palo Alto*	28
Slattery, J. W.,	*Mountain View*	28
Slaughter, H. C.,	*Los Angeles*	10
Slavich, J. F.,	*Oakland*	1
Sleeper, K. R.,	*Los Angeles*	10
Slemons, J. M.,	*Los Angeles*	10
Sloan, O. J.,	*Glendale*	10
Sloane, L. O.,	*Los Angeles*	10
Smale, G. A.,	*Los Angeles*	10
Smallberg, H. E.,	*W. Hollywood*	10
Smalley, R. B.,	*Willits*	12
Smallwood, W. C.,	*Long Beach*	10
Smart, E. P.,	*Olive View*	10
Smedley, R. C.,	*Los Angeles*	10
Smiley, H. W.,	*Indio*	18
Smiley, K. E.,	*Los Angeles*	10
Smitgen, P. H.,	*Los Angeles*	10
Smith, A. E.,	*Los Angeles*	10
Smith, A. M.,	*Oakland*	1
Smith, A. S. J.,	*San Jose*	28
Smith, B.,	*Los Angeles*	10
Smith, B. H.,	*Santa Monica*	10
Smith, B. H.,	*Huntington Park*	10
Smith, C. E.,	*San Francisco*	23
Smith, C. L.,	*Maywood*	10
Smith, C. R.,	*Los Angeles*	10
Smith, D. A.,	*Oakland*	23
Smith, D. V.,	*Long Beach*	10
Smith, E. D.,	*Solvang*	27
Smith, E. G.,	*Oakland*	1
Smith, E. W.,	*San Francisco*	11
Smith, F. H.,	*San Bruno*	26
Smith, G. F.,	*Los Angeles*	10
Smith, H.,	*Los Angeles*	10
Smith, H. A.,	*Whittier*	10
Smith, H. C.,	*Glendale*	10
Smith, H. G.,	*Palo Alto*	28
Smith, H. H.,	*Los Angeles*	10
Smith, H. L.,	*Fair Oaks*	19
Smith, H. J.,	*Oakland*	1
Smith, H. MacV.,	*Santa Ana*	16
Smith, J.,	*Bakersfield*	8
Smith, J. J. H.,	*Blythe*	18
Smith, J. L.,	*Los Angeles*	10
Smith, K. B.,	*Oakland*	1
Smith, L. E.,	*Hollister*	20
Smith, L. E.,	*San Bernardino*	21
Smith, M.,	*Los Angeles*	10
Smith, N. R.,	*Monterey Park*	10
Smith, P. M.,	*San Francisco*	23
Smith, R.,	*Los Angeles*	10
Smith, R. C.,	*Superior, Wis.*	10
Smith, R. D.,	*Pomona*	10
Smith, R. D.,	*San Pedro*	10
Smith, R. E.,	*Los Angeles*	10
Smith, R. K.,	*San Francisco*	23
Smith, R. L.,	*Pomona*	10
Smith, R. L. I.,	*Pasadena*	10
Smith, R. M.,	*Glendale*	10
Smith, R. M.,	*Riverside*	18
Smith, R. T.,	*Pomona*	10
Smith, S.,	*Pasadena*	10
Smith, S. K.,	*Oakland*	1
Smith, W.,	*Los Angeles*	10
Smith, W. B.,	*Los Angeles*	10
Smith, W. B.,	*San Francisco*	23
Smith, W. B.,	*Delano*	7
Smith, W. S.,	*San Diego*	22
Smithies, H. R.,	*Alameda*	1
Smolt, C. A.,	*Ventura*	37
Smolt, L. P.,	*Ventura*	37
Smylie, R. S.,	*San Diego*	22
Smyth, F. S.,	*San Francisco*	23
Smyth, M. H.,	*Stockton*	24
Smyth, R. J.,	*Cayucos*	25
Smythe, H.,	*Stockton*	24
Sneden, C. M.,	*Long Beach*	10
Snoddy, C. A.,	*Vallejo*	32
Snook, H. J.,	*Oakland*	1
Snow, W. F.,	*New York, N. Y.*	28
Snure, H.,	*Los Angeles*	10
Snyder, C. C.,	*Pasadena*	10
Snyder, G. A.,	*West Los Angeles*	10
Snyder, G. S.,	*San Francisco*	23
Sobey, G. L.,	*Paso Robles*	25
Soderstrom, E. M.,	*Chowchilla*	13
Sogemeier, E.,	*San Mateo*	26
Soghor, S.,	*Los Angeles*	10
Sohler, F. E.,	*Healdsburg*	33
Soiland, A.,	*Los Angeles*	10
Sokol, L. I.,	*Los Angeles*	10
Solomon, J. C.,	*Los Angeles*	10
Solomon, W. O.,	*Oakland*	1
Somerfield, H. A.,	*San Francisco*	23
Somers, M. R.,	*San Francisco*	23
Sommer, E. A.,	*Chino*	21
Sonnenberg, A.,	*San Francisco*	23
Sooy, D. W.,	*San Francisco*	23
Soper, H. V.,	*Los Angeles*	10
Sorauf, B. M.,	*Fresno*	4
Sornsen, A. A.,	*Los Angeles*	10
Sosnowski, K. C.,	*Long Beach*	10
Soto-Hall, R.,	*San Francisco*	23

NAME	CITY	COUNTY SOCIETY NO.
Soutar, R. G.,	*Sacramento*	19
Southgate, Paul T.,	*Long Beach*	10
Spalding, A. B.,	*San Francisco*	23
Spalding, C. A. H.,	*Richmond*	3
Spalding, J. B.,	*Richmond*	3
Spaulding, A. Q.,	*Santa Barbara*	27
Spaulding, J. M.,	*Los Angeles*	10
Spear, E. B.,	*Los Angeles*	10
Spear, J. L.,	*Santa Rosa*	33
Speer, G. G.,	*Los Angeles*	10
Speik, F. A.,	*Los Angeles*	10
Spencer, G. A.,	*Sacramento*	19
Spicer, W. H.,	*Cucamonga*	21
Spiers, H. W.,	*Los Angeles*	10
Sprague, B. H.,	*Los Angeles*	10
Sprague, G. T.,	*Van Nuys*	10
Sprauer, V. J.,	*Los Angeles*	10
Staatz, A. D.,	*Olive View*	10
Stabel, F.,	*Redding*	30
Stabel, J. A.,	*Colfax*	19
Stadfield, C. G.,	*Hollywood*	10
Stadlinger, K. P.,	*Burbank*	10
Stadtherr, E. F.,	*San Francisco*	23
Stadtmuller, E. S.,	*San Francisco*	23
Stafford, C. E.,	*Los Angeles*	10
Stafford, D. D.,	*Alameda*	1
Stafford, H. E.,	*Oakland*	1
Stafford, O. R.,	*Los Angeles*	10
Stahl, W. F.,	*Los Angeles*	10
Stailey, H. D.,	*Beverly Hills*	10
Staniford, K. J.,	*Fresno*	4
Stanley, L. L.,	*San Rafael*	11
Stanton, E. H.,	*Glendora*	10
Stanton, F. E.,	*Long Beach*	10
Stanton, R. H.,	*Pasadena*	10
Starbird, G. A.,	*King City*	14
Stark, B. W.,	*San Francisco*	23
Stark, J. H.,	*Oakland*	1
Stark, M.,	*Los Angeles*	10
Starr, R. W.,	*Los Angeles*	10
Staub, J. S.,	*San Jose*	28
Stauffer, M. L.,	*Pittsburg*	3
Stealy, C. L.,	*San Diego*	22
Steddom, F. W.,	*Los Angeles*	10
Steele, A. A.,	*Los Angeles*	10
Steele, A. B.,	*Santa Barbara*	27
Steele, E. H.,	*Los Angeles*	10
Steele, J. T.,	*Dunsmuir*	31
Steen, C. E.,	*Brea*	16
Steen, E. J.,	*Fullerton*	16
Steere, R. A.,	*Downey*	10
Steffy, J. L.,	*Santa Monica*	10
Stegeman, W.,	*Crescent City*	5
Stein, C.,	*Bellflower*	10
Stein, J. L.,	*Albany*	1
Stein, W. F.,	*Fresno*	4
Steinberg, J.,	*Los Angeles*	10
Steinmetz, A. F.,	*Hayward*	1
Steiss, C. S.,	*San Francisco*	23
Stelhorn, A. F.,	*Rosemead*	10
Stellar, R. W.,	*Wilmington*	10
Stephens, B. M.,	*Alameda*	1
Stephens, B. P.,	*Oakland*	1
Stephens, E.,	*Beverly Hills*	10
Stephens, H. W.,	*San Francisco*	23
Stephens, P. H.,	*Los Angeles*	10
Stephens, W. B.,	*Alameda*	1
Stephens, W. C.,	*Pasadena*	10
Stephenson, H. A.,	*San Francisco*	23
*Stern, A. A.,	*Sacramento*	19
Stern, R. G.,	*Los Angeles*	10
Steven, R. A.,	*San Francisco*	23
Stevens, C. S.,	*Santa Barbara*	27
Stevens, G. M.,	*Los Angeles*	10
Stevens, G. R.,	*San Diego*	22
Stevens, J. B.,	*Los Angeles*	10
Stevens, W. E.,	*San Francisco*	23
Stevens, W. L.,	*Baldwin Park*	10
Stevenson, A. P.,	*Torrance*	10
Stevenson, G. L.,	*Sacramento*	19
Stevenson, S. L.,	*San Francisco*	23
Stewart, A. E.,	*Los Angeles*	10
Stewart, C. W.,	*Hollywood*	10
Stewart, H. B.,	*Ripon*	34
Stewart, H. J.,	*San Diego*	22
Stewart, S. F.,	*Los Angeles*	10
Stewart, W.,	*Los Angeles*	10
Stibbens, F. H.,	*Oakland*	1
Stickler, J. H.,	*Pasadena*	10
Stiles, F. E.,	*San Francisco*	23
Stilson, G. D.,	*Long Beach*	10
Stilwell, L. E.,	*Hollywood*	10
Stimson, C. A.,	*Petaluma*	33
Stirewalt, H. W.,	*Concord*	3
St. John, A. H. V.,	*Los Angeles*	10
Stoddard, C. L.,	*San Diego*	22
Stoddard, J. McC.,	*Beverly Hills*	10
Stoddard, T. A.,	*San Francisco*	23
Stoker, E. M.,	*San Francisco*	23
Stoll, A. H.,	*Oxnard*	37
Stolle, F.,	*Dixon*	32
Stolz, C. E.,	*Los Angeles*	10
Stolz, H. R.,	*Berkeley*	1
Stone, B.,	*San Francisco*	23
Stone, C. S.,	*Santa Barbara*	27
Stone, E. M.,	*Oceanside*	22
Stone, R. S.,	*San Francisco*	23
Stone, W. J.,	*Pasadena*	10
Stoops, R. P.,	*Oakland*	1
Storey, T. A.,	*Stanford University*	28

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* Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Stork, V. E.,	*Los Angeles*	10
Stoughton, A. V.,	*Claremont*	10
Stovall, L.,	*Los Angeles*	10
Stowe, O. P.,	*Oakland*	1
Stowe, W. P.,	*San Francisco*	23
Strahlmann, L.,	*San Diego*	22
Strange, S. P.,	*San Francisco*	23
Stratford, E. B.,	*Los Angeles*	10
Strathearn, H. J.,	*Hollywood*	10
Stratton, E. K.,	*San Francisco*	23
Stratton, G. W.,	*Marysville*	39
Stratton, J. M.,	*Berkeley*	1
Streaker, L. H.,	*Goleta*	27
Street, L. A. B.,	*Los Angeles*	10
Strickler, D.,	*San Francisco*	23
Strickler, J. P.,	*San Francisco*	23
Striegel, L. McC.,	*Long Beach*	10
Striegel, R. J.,	*Long Beach*	10
Strietmann, W. H.,	*Oakland*	1
Strong, A. J.,	*Santa Paula*	37
Strongin, S.,	*Bakersfield*	7
Struble, H. P.,	*Hayward*	1
St. Sure, F. A.,	*San Diego*	22
Sturdivant, B. F.,	*Pasadena*	10
Sturgeon, C. T.,	*Los Angeles*	10
Sturges, R. L.,	*Los Angeles*	10
Styan, W. E.,	*San Francisco*	26
Sudlow, E. L.,	*San Fernando*	10
Suehs, P. E.,	*San Francisco*	23
Sugar, H.,	*Los Angeles*	10
Sullivan, C. S.,	*San Jose*	28
Sullivan, J. J.,	*Oakland*	1
Sullivan, J. M.,	*San Francisco*	23
Sullivan, J. R.,	*San Francisco*	23
Sullivan, N. R.,	*Santa Cruz*	29
Sullivan, W. J.,	*Hollywood*	10
Sulzbacher, C. I.,	*Los Angeles*	10
Sumerlin, H. S.,	*San Diego*	22
Sumner, W. A.,	*San Francisco*	23
Sundberg, R. H.,	*San Diego*	22
Sundin, P. O.,	*Los Angeles*	10
Supple, A. J.,	*South Pasadena*	10
Suski, P. M.,	*Los Angeles*	10
Susnow, D. A.,	*San Francisco*	23
Sutherland, K. H.,	*Santa Ana*	16
Sutherland, P. R.,	*Los Angeles*	10
Sutherland, R. T.,	*Oakland*	1
Sutherlin, C. G.,	*Los Angeles*	10
Sutton, T. L.,	*Stockton*	24
Svoboda, F. C.,	*San Diego*	22
Swanson, C. F.,	*Los Angeles*	10
Swarts, R. E.,	*San Francisco*	26
Swauger, L. S.,	*Oakland*	1
Swearingen, F. C.,	*Pomona*	10
Sweeney, J. P.,	*Milbrae*	26
Sweet, C. D.,	*Oakland*	1
Sweet, E.,	*Los Angeles*	10
Sweetser, G. W.,	*Martinez*	3
Swett, W. F.,	*San Francisco*	23
Swezey, S.,	*Los Angeles*	10
Swift, L. M.,	*Marysville*	39
Swigart, M.,	*Monterey*	14
Swim, W. A.,	*Los Angeles*	10
Swindt, J. K.,	*Pomona*	10
Swinney, R. W.,	*Long Beach*	10
Symonds, C. W.,	*Pasadena*	10
Szukalski, J. P.,	*Pasadena*	10

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NAME	CITY	COUNTY SOCIETY NO.
Taber, L. E.,	*San Francisco*	23
Taggart, M. M.,	*McFarland*	7
Talbott, E. M.,	*San Francisco*	23
Talbott, G. M.,	*San Francisco*	23
Talmage, C. H.,	*Sanitarium*	15
Taltavall, W. A.,	*Redlands*	21
Tandowsky, R. M.,	*Hollywood*	10
Tanner, C. O.,	*San Diego*	22
Tarnutzer, B. C.,	*Los Angeles*	10
Tatro, R. F.,	*Loma Linda*	21
Tattersall, K. L.,	*Oakland*	1
Taubles, G. H.,	*San Francisco*	23
Taussig, L.,	*San Francisco*	23
Taylor, D. A.,	*San Francisco*	23
Taylor, E. C.,	*San Francisco*	23
Taylor, E. M.,	*Oakland*	1
Taylor, F. B.,	*Oakland*	1
Taylor, F. W. H.,	*Los Angeles*	10
Taylor, G. M.,	*Los Angeles*	10
Taylor, L. E.,	*Los Angeles*	10
Taylor, L. H.,	*Oakland*	1
Taylor, P. A.,	*San Francisco*	23
Taylor, R. G.,	*Los Angeles*	10
Taylor, R. N.,	*Long Beach*	10
Taylor, R. O.,	*San Diego*	22
Taylor, R. T.,	*Los Angeles*	10
Taylor, W.,	*Martinez*	3
Teaby, W. L.,	*Monterey*	14
Teass, C. J.,	*San Luis Obispo*	25
Tebbe, F. H.,	*Oakland*	1
Tebbetts, H. B.,	*Los Angeles*	10
Tebbetts, H. E.,	*Whittier*	10
Tedstrom, M. K.,	*Santa Ana*	16
Teel, A. W.,	*Los Angeles*	10
Teeter, A. L.,	*Oakland*	1
Teitler, M. H.,	*San Francisco*	23
Templeton, H. J.,	*Oakland*	1
Templeton, W. K.,	*Riverside*	18
Terry, R. A.,	*Long Beach*	10
Terry, W. I.,	*San Francisco*	23
Thayer, L. E.,	*Los Angeles*	10

NAME	CITY	COUNTY SOCIETY NO.
Thebaut, W. M., Jr.,	*Oakland*	1
Thelander, H. E.,	*San Francisco*	23
Thelen, E.,	*San Diego*	22
Thibodeau, J. A.,	*San Francisco*	23
Tholen, E. F.,	*Los Angeles*	10
Thomas, B.,	*Oakland*	1
Thomas, B. S.,	*Sacramento*	19
Thomas, E. W.,	*Bieber*	24
Thomas, H. G.,	*Oakland*	1
Thomas, J. B.,	*Palo Alto*	28
Thomas, R. E.,	*Los Angeles*	10
Thomas, V. E.,	*Alhambra*	10
Thomas, W. C.,	*Long Beach*	10
Thomas, W. McL.,	*San Diego*	22
Thomason, G.,	*Los Angeles*	10
Thomason, S. D.,	*San Dimas*	10
Thompson, A. C.,	*Mountain View*	28
Thompson, A. R.,	*Rio Vista*	32
Thompson, C. P.,	*San Francisco*	23
Thompson, C. V.,	*Pescadero*	26
Thompson, C. V.,	*Lodi*	24
Thompson, C. W.,	*Pasadena*	10
Thompson, D. E.,	*Red Bluff*	35
Thompson, E. E.,	*Red Bluff*	35
Thompson, E. H.,	*Burbank*	10
Thompson, G. E.,	*Fresno*	4
Thompson, H. A.,	*San Diego*	21
Thompson, H. D.,	*Los Angeles*	10
Thompson, H. F.,	*Los Angeles*	10
Thompson, H. L.,	*Los Angeles*	10
Thompson, H. L.,	*Long Beach*	10
Thompson, I. B.,	*Sonora*	24
Thompson, J. E.,	*Los Angeles*	10
Thompson, K. J.,	*Oakland*	1
Thompson, L. O.,	*San Diego*	22
Thompson, L. R.,	*San Pedro*	10
Thompson, O. E.,	*Riverside*	18
Thompson, R. C.,	*Whittier*	10
Thompson, R. J.,	*Los Angeles*	10
Thompson, R. L.,	*Burbank*	10
Thompson, V. P.,	*Los Angeles*	10
Thomson, A. M.,	*Santa Rosa*	33
Thomson, D.,	*Burbank*	10
Thomson, H. S.,	*San Francisco*	23
Thomson, R. R.,	*Oakland*	1
Thoren, M. E.,	*Weimar*	17
Thornburg, H. D.,	*Los Angeles*	10
Thorne, I. W.,	*San Francisco*	23
Thorner, M.,	*Santa Barbara*	27
Thornton, A. J.,	*San Diego*	22
Thornton, J.,	*Los Angeles*	10
Thorpe, A. C.,	*Los Angeles*	10
Thorpe, F.,	*Hollywood*	10
Thorpe, L. S.,	*Los Angeles*	10
Threlfall, D. R.,	*San Jose*	28
Thunen, P. E.,	*Marysville*	39
Thurber, F.,	*Hollywood*	10
Thurber, P.,	*Los Angeles*	10
Thuresson, P. F.,	*Riverside*	18
Thurlow, A. A.,	*Santa Rosa*	33
Tiber, L. J.,	*Los Angeles*	10
Tice, E. W.,	*Los Angeles*	10
Tickell, A. H.,	*Nevada City*	17
Tiffany, D. F. E.,	*San Jose*	28
Tiffany, E. V.,	*Oakland*	1
Tillman, F. J.,	*Fresno*	4
Tillman, T. E.,	*San Francisco*	23
Tillmanns, C. S. J.,	*Los Angeles*	10
Tillotson, R. S.,	*Sacramento*	19
Timme, A. R.,	*Los Angeles*	10
Timon, A. N.,	*Los Angeles*	10
Tipton, S. P.,	*Watsonville*	29
Tisinger, E. L.,	*San Bernardino*	21
Titcomb, L. R.,	*Los Angeles*	10
Titus, C. I.,	*Sacramento*	19
Titus, J. H.,	*Ontario*	21
Tobias, M.,	*Los Angeles*	10
Tobin, P. A.,	*San Francisco*	23
Tock, E. W.,	*Santa Ana*	16
Todd, H. A.,	*Visalia*	36
Todd, J. B.,	*Los Angeles*	10
Toffelmier, D. D.,	*Oakland*	1
Toland, C. G.,	*Los Angeles*	10
Tollefson, D. G.,	*Los Angeles*	10
Toller, R. B.,	*Talmage*	12
Tolman, G. P.,	*Watsonville*	29
Tomlinson, R. F.,	*San Francisco*	23
Toomey, F. E.,	*San Diego*	21
Topham, E.,	*San Francisco*	23
Torell, G. J.,	*Los Angeles*	10
Torrano, M. A.,	*Oakland*	1
Torre, E. D.,	*San Francisco*	23
Torrens, A. S.,	*Hanford*	8
Torrey, H. B.,	*Stanford University*	28
Tourtillot, W. W.,	*Porterville*	36
Towne, E. B.,	*San Francisco*	23
Townsend, C. E.,	*Los Angeles*	10
Townsend, K.,	*Los Angeles*	10
Traber, C. H.,	*Reedley*	4
Trainor, J. V.,	*Los Angeles*	10
Trainor, M. E.,	*South Pasadena*	10
Trauner, L. M.,	*San Francisco*	23
Traver, C. M.,	*Patton*	21
Tretheway, L. E.,	*Manteca*	24
Treweek, D. N.,	*Los Angeles*	10
*Trewhella, J. S.,	*Montebello*	10
Trick, T. R.,	*Los Angeles*	10
Trimble, H. G.,	*Oakland*	1
Trimmer, E. L.,	*Los Angeles*	10
Trott, L. d'N.,	*Los Angeles*	10
Trotter, A. D.,	*Los Angeles*	10
Trowbridge, D. H.,	*Fresno*	4
Truax, J. P.,	*Lompoc*	27
True, H. F.,	*Sacramento*	19
Truman, S. R.,	*Oakland*	1
Truxaw, J. W.,	*Anaheim*	16
Tucker, H.,	*Agnew*	28
Tucker, R. G.,	*Alhambra*	10
Tulley, F. E.,	*San Diego*	22
Tully, J. J.,	*Stockton*	24
Tunnell, A. M.,	*Novato*	11
Tupper, R. B.,	*Fresno*	4
Turbow, A. O.,	*Los Angeles*	10
Turco, E. A.,	*San Jose*	28
Turkel, A. S.,	*Los Angeles*	10
Turley, J. G.,	*Los Angeles*	10
Turnbull, F. M.,	*Los Angeles*	10
Turner, E. C.,	*Sacramento*	19
Turner, J. H.,	*Huntington Park*	10
Tuteur, E. B.,	*Los Angeles*	10
Tuttle, S.,	*San Francisco*	23
Twitchell, E. W.,	*San Francisco*	23
Tyler, L. G.,	*San Rafael*	11
Tyroler, F. N.,	*Los Angeles*	10
Tyrrell, J. B.,	*Victorville*	21

— U —

NAME	CITY	COUNTY SOCIETY NO.
Uhl, G. M.,	*Woodland*	38
Uhis, R. T.,	*Long Beach*	10
Ullmann, H. J.,	*Santa Barbara*	27
Unsinger, H. F.,	*San Francisco*	23
Updegraff, H. L.,	*Hollywood*	10
Up de Graff, T. S.,	*Pasadena*	10
Upshaw, H. T.,	*Pasadena*	10
Ussher, N. T.,	*Santa Barbara*	27
Utter, J. W.,	*Anaheim*	16
Uyeyama, H.,	*Oakland*	1

— V —

NAME	CITY	COUNTY SOCIETY NO.
Vachout, M. A.,	*Southgate*	10
Van Allen, L. K.,	*Ukiah*	12
Vance, H. W.,	*Pasadena*	10
Vance, J. T.,	*Sacramento*	19
Van Cott, W. B.,	*Los Angeles*	10
Van Dalsem, S. B.,	*San Jose*	28
Van Dalsem, W. S.,	*San Jose*	28
Van Den Berg, W. J.,	*Sacramento*	19
Vanderburgh, C. M.,	*Fresno*	4
Van de Pol, A.,	*Modesto*	34
Van der Leek, P.,	*Stockton*	24
Van Deventer, W. C.,	*Redwood City*	23
Vandever, G. V.,	*Oakland*	1
Van Eman, O. H.,	*El Centro*	6
Van Fleet, H. D.,	*Los Angeles*	10
Van Meter, A. L.,	*Stockton*	24
Van Meter, F. J.,	*Norwalk*	10
Van Nuys, R. G.,	*Berkeley*	1
Van Ornum, E. N.,	*Los Angeles*	10
Van Paing, J. F.,	*Santa Barbara*	27
Van Pelt, R. S.,	*Los Angeles*	10
Van Sciver, C. B.,	*Los Angeles*	10
Van Scoyoc, J. G.,	*Los Angeles*	10
Van Sickle, J. R.,	*Santa Monica*	10
Van Soest, E. H.,	*Los Angeles*	10
Van Vorhis, J. H.,	*Corcoran*	8
Van Wagenen, R. J.,	*Fresno*	4
*Van Zwalenburg, C.,	*Riverside*	18
Varden, A. E.,	*San Bernardino*	21
Vardon, C. C.,	*Los Angeles*	10
Vardon, E. M.,	*Los Angeles*	10
Vaughan, L. B.,	*Long Beach*	10
Vecki, M. E.,	*San Francisco*	23
Vener, H. I.,	*Sawtelle*	10
Venzke, H.,	*Pasadena*	10
Veon, J. E.,	*Bakersfield*	7
Verne, V. E.,	*Long Beach*	10
Viau, B. H.,	*Sanger*	4
Vickerson, J. I.,	*Oakland*	1
Vidgoff, I. J.,	*Los Angeles*	10
Vidrickson, H. L.,	*Weed*	31
Viecelli, J. D.,	*San Francisco*	23
Vieira, E.,	*Sebastopol*	33
Vieira, F. G.,	*Stockton*	24
Vinetz, J. C.,	*Los Angeles*	10
Vinks, W. A.,	*Lincoln*	17
Viole, P. P.,	*Los Angeles*	10
Violett, C. C.,	*Garden Grove*	16
Visalli, J.,	*San Francisco*	23
Vischi, G. J. J.,	*Stockton*	24
Visscher, L. G.,	*Los Angeles*	10
Vizzard, W. R.,	*San Francisco*	23
Voight, C. E.,	*San Francisco*	23
Vollert, A. J.,	*San Francisco*	23
Vollmer, A. M.,	*San Francisco*	23
Vollmer, H. W.,	*Sanitarium*	15
von Briesen, H.,	*Los Angeles*	10
Von der Lieth, H. O.,	*San Francisco*	23
von Geldern, C. E.,	*Sacramento*	19
von Geldern, H.,	*San Francisco*	23
Von Hagen, K. O.,	*Los Angeles*	10
Von Hungen, A. P.,	*Escalon*	34
von Wedelstaedt, B.,	*Long Beach*	10
Voorhees, H. M.,	*Los Angeles*	10
Voorsanger, W. C.,	*San Francisco*	23
Vowinckel, F. W.,	*San Francisco*	1
Vruwink, J.,	*Los Angeles*	10

— W —

NAME	CITY	COUNTY SOCIETY NO.
Waddell, D. Q.,	*Los Angeles*	10
Waddell, W. E.,	*Los Angeles*	10
Wade, A. B.,	*Santa Ana*	16
Wade, L. T.,	*San Luis Obispo*	25
Wade, R. S.,	*Santa Ana*	16
Wagner, A. F.,	*Los Angeles*	10
Wagner, L. D.,	*Pasadena*	10
Wahl, H. A.,	*San Francisco*	23
Wahle, H.,	*Oakland*	1
Wahlen, J. A.,	*Montebello*	10
Wahrhaftig, M. J.,	*Fresno*	4
Waitzfelder, F.,	*Los Angeles*	10
Wald, H. A.,	*So. San Francisco*	23
Walker, A. W.,	*Riverside*	18
Walker, B. F.,	*Fresno*	4
Walker, C. A.,	*San Francisco*	23
Walker, C. B.,	*Los Angeles*	10
Walker, G. W.,	*Fresno*	4
Walker, J. D.,	*Los Angeles*	10
Walker, J. E.,	*Long Beach*	10
Walker, J. R.,	*Fresno*	4
Walker, P. J.,	*Los Angeles*	10
Walker, R. S.,	*Oakland*	1
Walker, W. H.,	*Willows*	38
Wall, H. W.,	*Hollywood*	10
Wallace, A.,	*Los Angeles*	10
Wallace, C. T.,	*Eureka*	5
Wallace, E. P.,	*Los Angeles*	10
Wallace, W. S.,	*Orange*	16
Waller, G. P., Jr.,	*Los Angeles*	10
Waller, L. M.,	*Hollywood*	10
Wallerius, R. M.,	*Sacramento*	19
Walrath, G. B.,	*Los Angeles*	10
Walsh, F. D.,	*Oakland*	1
Walsh, J. F.,	*Eureka*	5
Walters, C. M. C.,	*Los Angeles*	10
Walters, F. J.,	*San Diego*	22
Walters, H. S.,	*San Luis Obispo*	25
Walters, P. R.,	*Berkeley*	1
Walton, H. M.,	*Loma Linda*	21
Walton, R. R.,	*Linwood*	10
Warburton, J. A.,	*Burlingame*	26
Ward, R.,	*San Francisco*	23
Wardrip, B. H.,	*San Jose*	28
Ware, E. R.,	*Los Angeles*	10
Ware, J. G.,	*Santa Barbara*	27
Warmer, C. A.,	*Los Angeles*	10
Warner, H. E.,	*Los Angeles*	10
Warner, O. H.,	*San Diego*	22
Warnock, A. W.,	*San Pedro*	10
Warnshuis, F. C.,	*San Francisco*	23
Warren, H. C.,	*Belmont*	26
Warren, J. P.,	*San Francisco*	23
Warren, J. W.,	*Los Angeles*	10
Washburn, W. W.,	*San Francisco*	23
Watanabe, L. M.,	*San Jose*	28
Waters, P. S.,	*Patton*	21
Waters, Z. O.,	*San Francisco*	23
Watkins, L. H.,	*Pasadena*	10
Watkins, W. E.,	*Santa Ana*	16
Watson, A. R.,	*Eureka*	5
Watson, F. V.,	*Hollywood*	10
Watson, L. F.,	*Los Angeles*	10
Watson, H. G.,	*San Francisco*	23
Watson, R. G.,	*Oakland*	1
Watson, T.,	*Sunnyvale*	28
Watters, E. M.,	*Santa Cruz*	29
Watters, H. G.,	*Watsonville*	29
Waxman, A.,	*Los Angeles*	10
Way, S. C.,	*San Francisco*	23
Wayburn, E.,	*San Francisco*	23
Wayland, C.,	*San Jose*	28
Wayland, C. A.,	*San Jose*	28
Wayland, R. T.,	*Glendale*	10
Wayte, E. W.,	*Norwalk*	10
Weaver, C. H.,	*Los Angeles*	10
Weaver, D. D.,	*Oakland*	1
Weaver, L. W.,	*Oakland*	1
Webber, W. T.,	*Long Beach*	10
Weber, A. L.,	*Upland*	21
Weber, W. L.,	*Los Angeles*	10
Webster, D. P.,	*Fresno*	4
Webster, G. M.,	*Patton*	21
Webster, J. C.,	*Los Angeles*	10
Webster, J. S.,	*Mariposa*	13
Webster, O. L.,	*Holtville*	6
Weddle, C.,	*Dinuba*	36
Wedgewood, P. E.,	*San Diego*	22
Weeks, A.,	*San Francisco*	23
Wegeforth, H. M.,	*San Diego*	22
*Weger, G. S.,	*Redlands*	21
Wehrly, J.,	*Santa Ana*	16
Wehrly, W. S.,	*Santa Ana*	16
Weil, S. N.,	*Rodeo*	3
Weinberg, S. L.,	*Los Angeles*	10
Weinberger, J.,	*Vienna, Austria*	22
Weiner, W. M.,	*San Francisco*	23
Weirich, E. W.,	*Angels Camp*	24
Weiser, A. D.,	*Los Angeles*	10
Weiskotten, W. O.,	*San Diego*	22
Weiss, K. F.,	*Visalia*	36
Weitkamp, A. H.,	*Los Angeles*	10
Welbourn, L. S.,	*Van Nuys*	10
Welbourn, M. A.,	*Los Angeles*	10
Welbourn, P. M.,	*Los Angeles*	10
Welch, E. H.,	*Pomona*	10
Welch, S. H.,	*Glendale*	10
Welcome, E. H.,	*Downey*	10
Welfer, C. R.,	*Los Angeles*	10
Weller, T. W.,	*Oakland*	1

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* Deceased.

NAME	CITY	COUNTY SOCIETY NO.
Wells, C. E.,	*Woodlake*	36
Wells, E. W.,	*Los Angeles*	10
Wells, J. T.,	*San Diego*	22
Wells, M. C.,	*Los Angeles*	10
Wells, P. H.,	*Lower Lake*	15
Wells, S. J.,	*Sacramento*	19
Welpton, M. A.,	*San Diego*	22
Welsh, O. A.,	*Ventura*	37
Welti, L.,	*Napa*	15
Werden, D. H.,	*San Diego*	22
Werlich, R. E.,	*San Diego*	22
Werner, E.,	*Los Angeles*	10
Werthmann, P. A.,	*Gustine*	13
Wessels, W. F.,	*Los Angeles*	10
Wesson, M. B.,	*San Francisco*	23
West, F. D.,	*Beaumont*	18
West, H. F.,	*Los Angeles*	10
Weston, F. P.,	*Pasadena*	10
Weston, F. W.,	*Tustin*	16
Westphal, H. G.,	*Glendale*	10
Wetherill, G. G.,	*Palo Alto*	28
Wetmore, C. T.,	*Berkeley*	1
*Weymann, M. F.,	*Los Angeles*	10
Whalen, J. F.,	*Altadena*	10
Whalen, T. J.,	*San Francisco*	23
Whalman, H. F.,	*Los Angeles*	10
Wheatley, W. G.,	*Azusa*	10
Wheeler, I. A.,	*Colfax*	33
Wheelis, J. M.,	*Los Angeles*	10
Whitaker, L. S.,	*San Jose*	28
Whitcomb, E. L.,	*Los Angeles*	10
White, A. S.,	*San Francisco*	23
White, H. L.,	*Red Bluff*	35
White, J. F.,	*San Diego*	22
White, J. H.,	*Chico*	2
White, L. F.,	*Los Angeles*	10
White, P. G.,	*Los Angeles*	10
Whitelock, T. S.,	*San Diego*	22
Whitelock, T. S., Jr.,	*San Diego*	22
Whiting, F. M.,	*Oroville*	2
Whitlow, J. E.,	*Fillmore*	10
Whitmer, C. F.,	*Colton*	21
*Whitney, J. L.,	*San Francisco*	23
Whittaker, L. F.,	*Huntington Beach*	16
Wickman, H. J.,	*Riverside*	18
Wiebe, D.,	*Reedley*	4
Wiebe, F. E.,	*Soledad*	14
Wiebusch, E. G. L.,	*Los Angeles*	10
Wiel, H. I.,	*San Francisco*	23
Wiese, W. F.,	*Fresno*	4
Wightman, A. H.,	*Laguna Beach*	16
Wilbur, B. C.,	*Palo Alto*	28
Wilbur, R. L.,	*Stanford University*	23
Wilcox, A. B.,	*Santa Barbara*	27
Wilcox, C. F.,	*Huntington Park*	10
Wilcox, R. W.,	*Long Beach*	10
Wiley, E. H.,	*Los Angeles*	10
Wiley, H. J.,	*Huntington Park*	10
Wilhelm, L. F. X.,	*Los Angeles*	10
Wilhoit, J. W.,	*Ocean Beach*	22
Wilke, J. O.,	*Hermosa Beach*	10
Wilken, H. T.,	*Santa Monica*	10
Wilkinson, A. J.,	*San Diego*	22
Wilkinson, A. M.,	*Hollywood*	10
Willard, W. P.,	*San Francisco*	23
Willcutt, G. H.,	*San Rafael*	11
Williams, A. H.,	*Hollywood*	27
Williams, A. J.,	*San Francisco*	23
Williams, C. G.,	*Los Angeles*	10
Williams, D. B.,	*Colton*	21
Williams, D. B.,	*Lynwood*	15
Williams, E. H.,	*Los Angeles*	10
Williams, F.,	*San Francisco*	23
Williams, F. F., Jr.,	*Patton*	21
Williams, J.,	*Eldridge*	33
Williams, J. B.,	*Los Angeles*	10
Williams, J. C.,	*San Francisco*	23
Williams, N. H.,	*Los Angeles*	10
Williams, P. M.,	*Los Angeles*	10
Williams, R.,	*Los Angeles*	10
Williams, W. F.,	*Oakland*	1
Williamson, M. A.,	*Lone Pine*	7
Williamson, M. C.,	*Upland*	21
Williamson, N. E.,	*Stockton*	24
Willier, A. F.,	*San Diego*	22
Willis, H. Q.,	*Balboa*	16
Willits, E. K.,	*San Francisco*	23
Wills, C. A.,	*Oakland*	1
Wills, I.,	*Santa Barbara*	27
Willson, L. R.,	*Fresno*	4
Wilmar, A. H.,	*Paso Robles*	25
Wilson, A. D.,	*Palm Springs*	18
Wilson, C.,	*Monterey*	14
Wilson, C. G.,	*Palo Alto*	28
Wilson, D. R.,	*San Jose*	28
Wilson, G.,	*Sacramento*	19
Wilson, G. W.,	*Los Angeles*	10
Wilson, H. F.,	*San Francisco*	23
Wilson, H. H.,	*Los Angeles*	10
Wilson, H. P.,	*Whittier*	10
Wilson, H. R.,	*Modesto*	34
Wilson, H. S.,	*N. Hollywood*	10
Wilson, J. B.,	*San Francisco*	23
Wilson, J. C.,	*San Jose*	28
Wilson, J. C.,	*Los Angeles*	10
Wilson, J. D.,	*Berkeley*	1
Wilson, J. M.,	*Pasadena*	10
Wilson, J. W.,	*San Francisco*	23
Wilson, J. W., Jr.,	*Los Angeles*	10
Wilson, K. R.,	*Santa Barbara*	27
Wilson, R. D.,	*Los Angeles*	10
Wilson, W. M.,	*Weaverville*	30
Wimmer, S. D.,	*Los Angeles*	10
Wimp, W. H.,	*Pasadena*	10
Winchell, F. S.,	*Oakland*	1
Wineberg, A. C.,	*Oakland*	1
Wineland, A. J.,	*Los Angeles*	10
Wing, L. A.,	*Eureka*	5
Winn, W. A.,	*Springville*	36
Winnard, W. F. R.,	*Los Angeles*	10
Winslow, A. L.,	*Oakland*	1
Winterberg, W. H.,	*San Francisco*	23
Winternitz, C. D.,	*San Francisco*	23
Winters, W. P.,	*San Diego*	22
Wiper, T. B.,	*San Francisco*	23
Wise, D. C.,	*Pittsburg*	3
Wise, P. L.,	*San Jose*	28
Wiser, F. C.,	*Los Angeles*	10
Wisner, F. B.,	*Marysville*	39
Wissner, L. O.,	*Modesto*	34
Witherbee, H. R.,	*Los Angeles*	10
Witherbee, O. O.,	*Los Angeles*	10
Witter, C. B.,	*Los Angeles*	10
Wold, A. P.,	*Oakland*	1
Wolf, G. L.,	*San Francisco*	23
Wolfe, H. H.,	*Fort Bragg*	12
Wolff, E.,	*San Francisco*	23
Wolff, M. J.,	*Los Angeles*	10
Wolfram, W. H.,	*Cincinnati, Ohio*	27
Wolfsohn, J. M.,	*San Francisco*	23
Wolfsohn, M.,	*Monterey*	14
Wong, T. A.,	*San Francisco*	23
Wood, C. H.,	*Glendora*	10
Wood, C. L.,	*St. Helena*	15
Wood, D. A.,	*San Francisco*	23
Wood, D. A.,	*San Francisco*	23
Wood, F. W.,	*Alhambra*	10
Wood, G. J.,	*St. Helena*	15
Wood, G. N., Jr.,	*Palo Alto*	28
Wood, H. A.,	*Long Beach*	10
Wood, J. A.,	*Anaheim*	16
Wood, J. G.,	*Los Angeles*	10
Wood, R. F.,	*National City*	22
Wood, W. A.,	*Oakland*	1
Woodard, D. S.,	*Watsonville*	29
Woodhull, C. G.,	*Los Angeles*	10
Woodhull, R. A.,	*Los Angeles*	10
Woods, D. K.,	*San Diego*	22
Woods, D. L.,	*Los Angeles*	10
Woods, L.,	*Oakland*	1
Woods, R. A.,	*Los Angeles*	10
Woods, W. W.,	*Alhambra*	10
Woodward, E. B.,	*Monrovia*	10
Woolf, M. S.,	*San Franucisco*	23
Woolfan, E. B.,	*Los Angeles*	10
Woolford, J. S.,	*Eureka*	5
Woolsey, C. H.,	*San Francisco*	23
Woolsey, J. H.,	*Woodland*	38
Woolston, W. J.,	*Pasadena*	10
Workman, R. A.,	*Pacific Grove*	14
Worthington, L. C.,	*Bakersfield*	7
Worthington, R. L.,	*San Diego*	22
Wright, B. W.,	*Los Angeles*	10
Wright, C. A.,	*Los Angeles*	10
Wright, H. J.,	*Healdsburg*	33
Wright, J. M.,	*Pasadena*	10
Wright, La V.,	*San Francisco*	23
Wright, R. W.,	*Palo Alto*	28
Wright, W. B., Jr.,	*Long Beach*	10
Wright, W. M.,	*Los Angeles*	10
Wrigley, G. C.,	*Sonora*	24
Wrinkle, G. S.,	*Talmage*	12
Wyatt, L. C.,	*Moorpark*	37
Wyckoff, H. A.,	*San Francisco*	23
Wyers, R. E.,	*Spadra*	10
Wylie, C. A.,	*San Bernardino*	21
Wymore, W. W.,	*San Francisco*	23
Wynns, H. LeR.,	*Berkeley*	1

— Y —

NAME	CITY	COUNTY SOCIETY NO.
Yabroff, S. W.,	*Oakland*	1
Yaker, D. N.,	*Los Angeles*	10
Yamao, E.,	*Walnut Grove*	19
Yeagle, R. P.,	*Santa Ana*	16
Yerxa, C. W.,	*Los Angeles*	10
Yoakam, F. A.,	*Moorpark*	37
Yocum, F. W.,	*San Luis Obispo*	25
Yoder, E. H.,	*Los Angeles*	10
Yoell, R. A.,	*San Francisco*	23
Yost, F. O.,	*Los Angeles*	10
Young, C. S.,	*Los Angeles*	10
Young, D. D.,	*Los Angeles*	10
Young, E. N.,	*San Diego*	22
Young, F. B.,	*Long Beach*	10
Young, F. W.,	*Los Angeles*	10
Young, J. H.,	*San Diego*	22
Young, J. W.,	*Beverly Hills*	10
Young, M. L.,	*Los Angeles*	10
Young, N. A.,	*Huntington Park*	10
Young, W. L.,	*Santa Cruz*	29

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NAME	CITY	COUNTY SOCIETY NO.
Zaiser, H. E.,	*Orange*	16
Zanger, H. G.,	*San Jose*	28
Zaring, B. K.,	*Columbus, Indiana*	10
Zeff, M. G.,	*Berkeley*	1
Zeiler, A. H.,	*Los Angeles*	10
Zeiler, J.,	*Los Angeles*	10
Zeimer, I. S.,	*Stockton*	24
Zelinsky, F.,	*Los Angeles*	10
Zieber, R. L.,	*Santa Rosa*	33
Zimmerer, S. R.,	*Mecca*	18
Zimmerman, H.,	*Sacramento*	19
Zimmermann, W. T.,	*Los Angeles*	10
Zirker, D. W.,	*Merced*	13
Zirkle, T. I.,	*Loma Linda*	21
Ziskind, E.,	*Los Angeles*	10
Zobel, A. J.,	*San Francisco*	23
Zochert, L. W.,	*La Mesa*	22
Zombro, F. B.,	*Los Angeles*	10
Zorb, G. A.,	*Los Angeles*	10
Zumwalt, E. R.,	*Tulare*	36
Zumwalt, F. H.,	*San Francisco*	23
Zumwalt, R. S.,	*San Francisco*	23

II. ASSOCIATE MEMBERS

NAME	CITY	COUNTY SOCIETY NO.
Cummins, W. T.,	*San Francisco*	23
Godfrey, E. B.,	*San Bernardino*	21
Leake, C. D.,	*San Francisco*	23
Mosher, C. D.,	*Stanford University*	28
Rusk, G. Y.,	*San Francisco*	23
Weiss, C.,	*San Francisco*	23

III. HONORARY MEMBERS

NAME	CITY	COUNTY SOCIETY NO.
Gill, A. F.,	*Banning*	10
Goodenow, N. H.,	*Monrovia*	10
Harris, H.,	*San Francisco*	23
Hermann, A. J.,	*Los Angeles*	10
Kalb, G. B.,	*Monrovia*	10
Kellogg, F. B.,	*Santa Monica*	10
King, J. C.,	*Riverside*	18
Liliencrantz, A.,	*Oakland*	1
Perry, W. F.,	*Los Angeles*	10
Sanders, A. O.,	*San Francisco*	10
Shawhan, R. C.,	*Otten, N. C*	10
Sill, E. R.,	*Oakland*	1

IV. RETIRED

NAME	CITY	COUNTY SOCIETY NO.
Allen, F. M.,	*San Diego*	22
Baker, C. Le B. J.,	*Point Loma*	22
Baker, F.,	*Point Loma*	22
Baumeister, E. E.,	*San Francisco*	2
Bogue, H. A.,	*Ontario*	21
Browning, C. C.,	*Los Angeles*	10
Bryan, E. H.,	*Penryn*	17
Clark, J.,	*Gilroy*	28
Cohn, D.,	*San Francisco*	23
Davis, B.,	*Los Gatos*	13
DePuy, E. S.,	*Oakland*	1
Doig, R. L.,	*San Diego*	22
Dunsmoor, N. C.,	*Los Angeles*	10
Evans, G. H.,	*Berkeley*	23
Frederick, M. W.,	*Brentwood*	23
Gatchell, W. LeF.,	*Chico*	2
Goodman, E.,	*San Francisco*	23
Goodridge, H. A.,	*San Jose*	28
Gray, F. P.,	*San Francisco*	23
Grissim, J. D.,	*Oakland*	1
Gunn, Herbert,	*San Francisco*	10
Henderson, J. J.,	*San Francisco*	23
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McDaniel, J. L.,	*San Fernando*	10
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BOOK REVIEWS

List of Books Received

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Abnormal Arterial Tension. By Edward J. Stieglitz, M. D., F. A. C. P., Assistant Clinical Professor of Medicine, Rush Medical College of the University of Chicago; Assistant Attending Physician, Presbyterian Hospital; Attending Physician, Chicago Memorial Hospital. Edited by Morris Fishbein, M. D. Cloth. Pp. 261. Price, $4. New York: National Medical Book Company, Inc., 1935.

Obstetrics for the General Practitioner. By J. P. Greenhill, B. S., M. D., F. A. C. S., Professor of Gynecology, Loyola, University School of Medicine, Chicago. Edited by Morris Fishbein, M. D. Cloth. Pp. 304. Price $4. New York: National Medical Book Company, Inc., 1935.

Industrial Medicine. By W. Irving Clark, A. B., M. D., Assistant Professor of the Practice of Industrial Medicine, Harvard School of Public Health, Boston, and Medical Director of the Norton Company, Worcester, Mass., and Philip Drinker, S. B., Ch. E., Associate Professor of Industrial Hygiene, Harvard School of Public Health, Boston. Edited by Morris Fishbein, M. D. Cloth. Pp. 262. Price, $4. New York: National Medical Book Company, Inc., 1935.

The Management of Colitis. By J. Arnold Bargen, M. D., F. A. C. P., Division of Medicine, The Mayo Clinic; Assistant Professor of Medicine, The Mayo Foundation; In Charge of Intestinal Service, St. Mary's Hospital, Rochester, Minnesota. Edited by Morris Fishbein, M. D. Cloth. Pp. 234. Price, $4. New York: National Medical Book Company, Inc., 1935.

Commoner Diseases of the Skin. By S. William Becker, M. S., M. D., Associate Professor of Dermatology, School of Medicine, University of Chicago. Edited by Morris Fishbein, M. D. Cloth. Pp. 283. Price, $4. New York: The National Medical Book Company, Inc., 1935.

Diseases of the Chest. By J. Arthur Myers, M. D., Professor of Medicine, Preventive Medicine and Public Health, University of Minnesota Medical School. Edited by Morris Fishbein, M. D. Cloth. Pp. 385. Price, $4. New York: The National Medical Book Company, Inc., 1935.

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M. D., Chief Surgeon, Halstead Hospital; Professor of Surgery, University of Kansas. With a chapter on Hospital Management of Goiter Patients by Victor E. Chesky, M. D., Chief Resident Surgeon, Halstead Hospital. Third Edition, entirely rewritten. Cloth. Pp. 348. Price, $7.50. St. Louis: The C. V. Mosby Company, 1935.

The Doctor and the Public. A Study of the Sociology, Economics, Ethics, and Philosophy of Medicine, based on Medical History. By James Peter Warbasse, M. D. Cloth. Pp. 572, illustrated. Price, $5. New York: Paul B. Hoeber, Inc., 1935.

One Thousand Questions and Answers on Tuberculosis. Edited by Fred H. Heise, M. D., Medical Director, Trudeau Sanatorium, and Question Box Editor, Journal of the Outdoor Life. Cloth. Pp. 232. New York: National Tuberculosis Association, 1935.

A Record Book for Tuberculosis Patients. Designed for the Journal of the Outdoor Life, by Lawrason Brown, M. D. Paper. New York: Journal of the Outdoor Life, 1935.

Living Along With Heart Disease. By Louis Levin, M. D., Cardiologist to St. Francis Hospital and New Jersey State Prison Hospital, Trenton, N. J.; formerly Consulting Cardiologist to the New Jersey State Hospital at Trenton; and Assistant Physician Cardiac Clinic, Pennsylvania Hospital, Philadelphia. With a Foreword by Thomas M. McMillan, M. D., Associate Professor of Car-

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NEW MEDICAL BOOKS

Oppenheimer: Medical Jurisprudence . . $4.00
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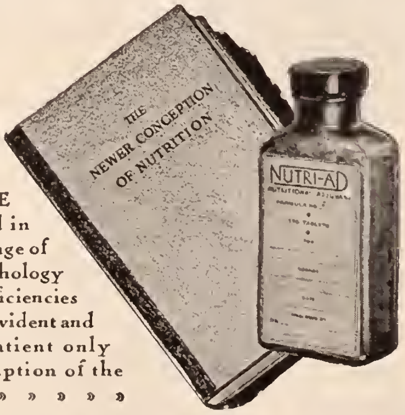

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diology, Graduate School of Medicine, University of Pennsylvania; Visiting Physician to the Pennsylvania Hospital; Chief of the Division of Cardiology of the Philadelphia General Hospital; and Consulting Cardiologist to the Burlington County Hospital, Mount Holly, N. J. Cloth. Pp. 126. Price, $1.50. New York: The Macmillan Company, 1935.

The Liverpool Medico-Chirurgical Journal. Vol. 43, Part 1. 1935. Editor, J. Murray Bligh, M. D., F. R. C. P. Paper. Pp. 65. Price, half a crown. Liverpool: Medical Institution, 1935.

The American Illustrated Medical Dictionary. A complete dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A. M., M. D., F. A. C. S., Lieutenant-Colonel, M. R. C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. With the Collaboration of E. C. L. Miller, M. D., Medical College of Virginia. Seventeenth Edition, revised and enlarged. Flexible and stiff binding. Pp. 1,573, with 945 illustrations, including 283 portraits. Price, plain, $7 net; thumb index, $7.50 net. Philadelphia and London: W. B. Saunders, 1935.

BOOK REVIEWS

The Principles and Practice of Urology. By Frank Hinman. Pp. 1,111. Illustrated. Philadelphia and London: W. B. Saunders Company, 1935. Price, $10.

The author has produced a one volume book which is unusually complete, as much so as any text in the English language, and is intended as a reference book and text, primarily for medical students and general practitioners. It is divided into two main subdivisions; the first two hundred and fifty pages of which undertake to discuss the comparative anatomy and development of the urogenital tract, commencing with the most elementary forms and culminating in man. It shows an immense amount of work and research on the part of the author, and will undoubtedly remain as an authority.

(Continued on Page 15)

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BOOK REVIEWS

(Continued from Page 12)

The majority of the book, or 75 per cent of it, is devoted solely to urological practice, taking up in detail the most common diseases and methods of diagnosis, both non-instrumental and instrumental. Included in this are history and symptomatology; examination of the external genitalia; examination of the urine; rectal examination of the prostate and seminal vesicles; roentgenology; tests for renal function; the simpler instrumental studies and finally the use of the urethroscope and endoscope.

In a systematic manner there is fully discussed the anomalies of development; obstructive uropathies; genito-urinary infections; urinary lithiasis; and the special diseases of the various portions of the genito-urinary tract, namely, the lower tract, the mid-tract and the upper tract.

The part devoted to gonorrhea consists of about thirty-four pages, being most complete, and one-half of this is devoted to the treatment of this disease.

The book is of especial value to the urologist, as it has numerous references to the literature covering all subjects. The author has not taken up fully all types of surgical procedure, which omission is timely, as it would be impossible to satisfactorily cover this in one volume. However, in future editions this might advisedly be done, as the writer has had much clinical experience and many operations are original.

Illustrations are profuse, with photographs, drawings and charts, as well as numerous microphotographs, all completely explained. Thirty-two pages of index complete the volume.

By means of this book, the general practitioner will be able to obtain the necessary information for the recognition of an urological problem, determine whether urological investigations are in order, and thereby understand the underlying principles in order to outline or cooperate with the treatment. For the medical student it is almost a classic, as it contains everything for complete instruction, and is highly recommended to all interested in urology.
S. O.

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Management of Colitis, by J. Arnold Bargen, M. D., F. A. C. P.

Commoner Diseases of the Skin, by S. William Becker, M. S., M. D.

Diseases of the Chest, by J. Arthur Myers, M. D.

As monographs, they set forth the author's concept and opinion upon the subject he presents. On the whole they are consistent with our present knowledge and give the reader a fairly comprehensive discussion. The series has no special feature to merit special commendation.
W. F. C.

Annual Reprints of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1934, with the Comments that Have Appeared in The Journal. Cloth. Pp. 135. Price, $1. Chicago: American Medical Association, 1934.

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(Continued on Page 17)

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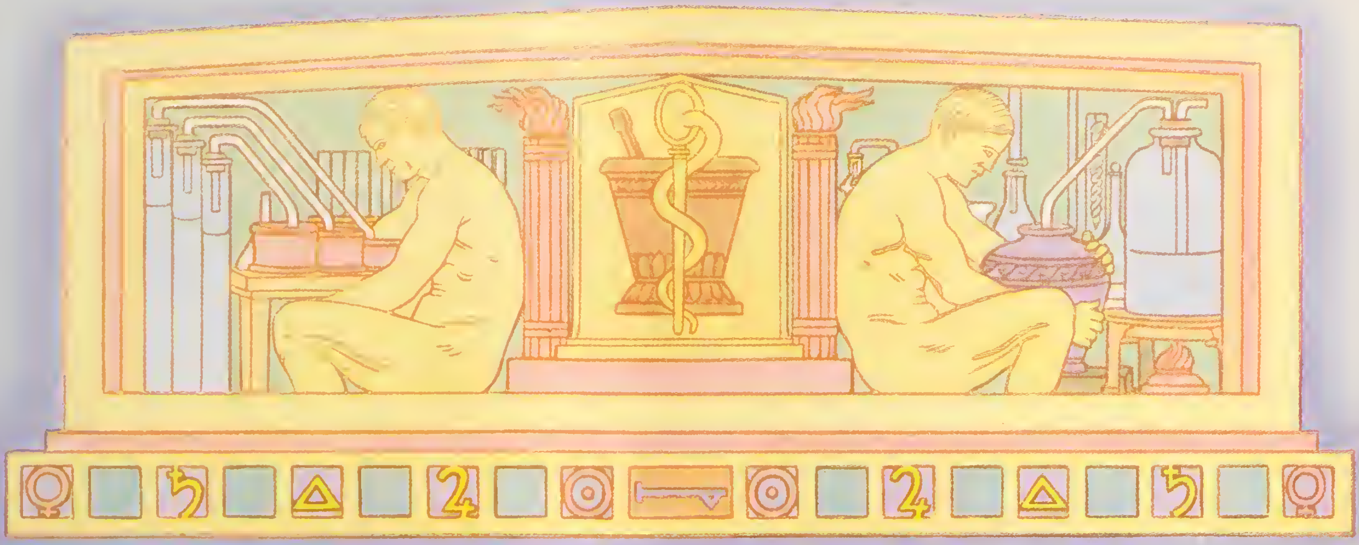

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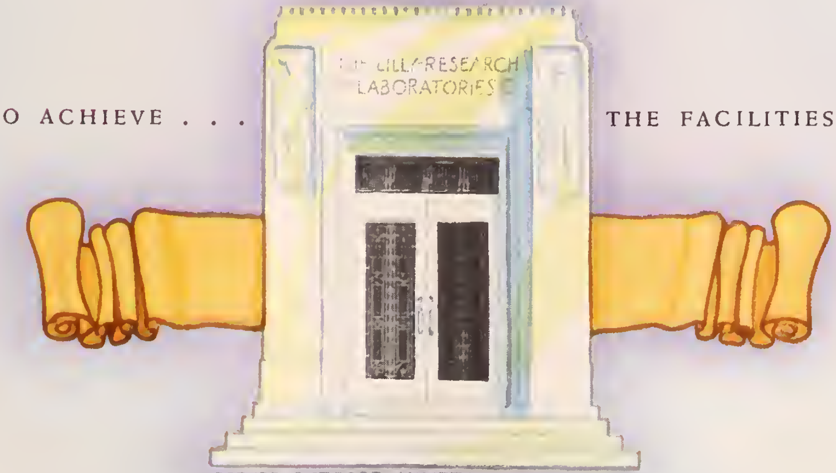

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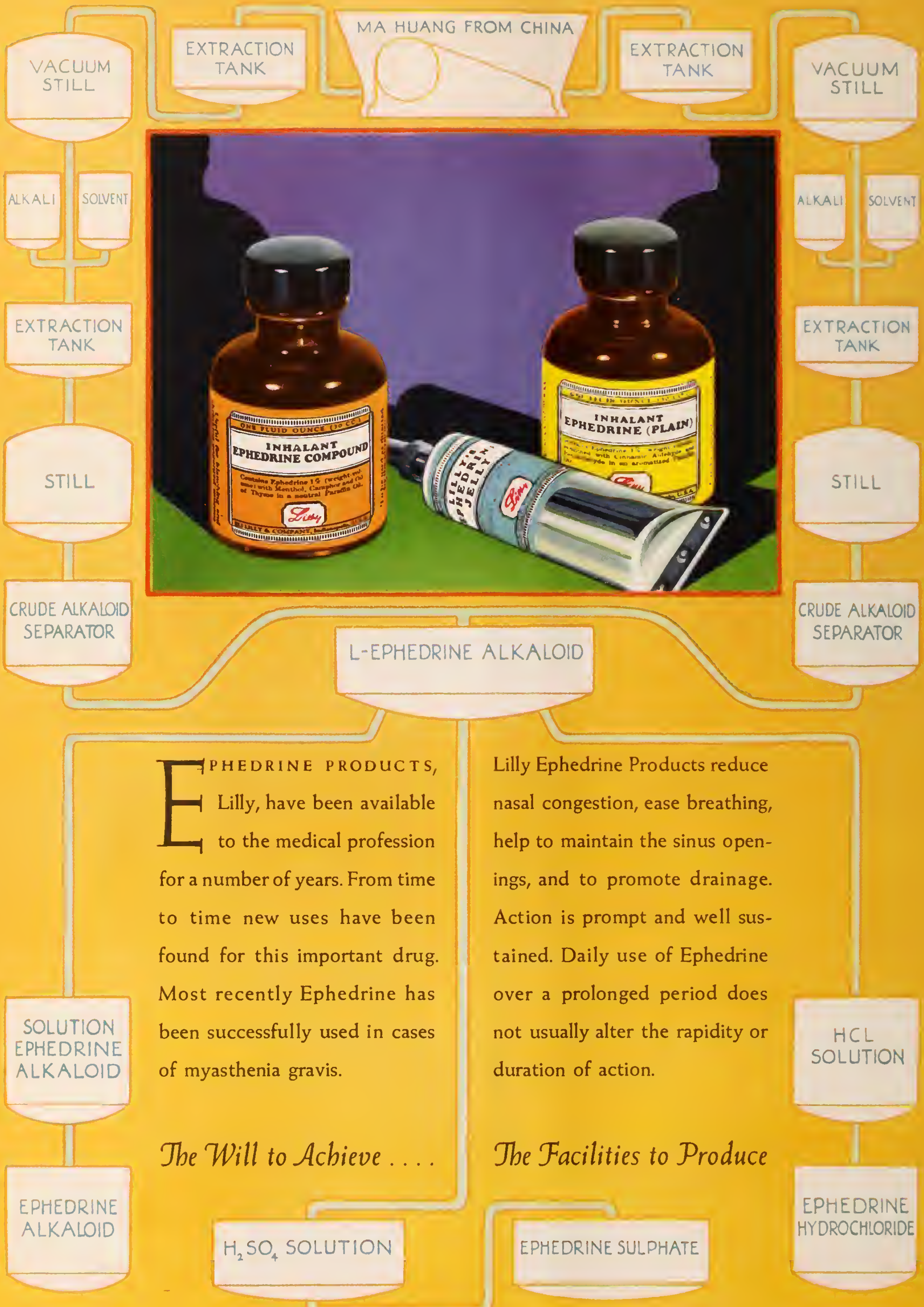
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The Facilities to Produce

BOOK REVIEWS

(Continued from Page 15)

of rational therapeutics. The Council is no longer chiefly concerned with noisome proprietaries and yet this latest volume contains reports on such articles as "Vita-Cell," a secret preparation marketed with exaggerated claims, and "Raylos," a shotgun preparation marketed in a way to promote its ill advised use by the public. Most of the "unacceptable" reports in this volume are concerned with products that may have some merit but are not offered to the publice in a way which experience has taught the Council is necessary before a therapeutic agent is acceptable. Such products are iodin dusting powder (Sulzberger), rejected for lack of clinical evidence of its advantage over one of its constituents; pernoston, rejected because of lack of clinical evidence to justify routine intravenous injection of barbital compounds; di-hydranol, a claimed bactericidal agent proposed for use as an "intestinal antiseptic," a claim not supported by sufficient clinical evidence; and Squibb adex tablets, a product containing a concentrate of vitamins A and D, for which the firm could not agree to adopt a more informative name.

To those who have followed the Council's investigation of B. acidophilus therapy, the report "Acidophilus Bacillus Liquid-Mulford and Mulford Acidophilus Bacillus Block Omitted from N. N. R." will be of interest. The Council has apparently not yet reached an ultimate conclusion concerning acidophilus therapy, but it has for years held that no product could be expected to be of value unless it could show at least one hundred million viable B. acidophilus organisms at the "date of expiration." Competent bacteriologic examination showed that the two preparations here reported were inferior to this standard. Further grounds for omission were the failure of the manufacturer to comply with certain stipulations in regard to labels and advertising. Another noteworthy omission is that of Alpha-Naphco and its dosage forms, omitted because the Council on reconsideration found that it is a weak antiseptic.

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The Council also issues preliminary reports, which define the status of new preparations for which the evidence is not yet sufficient to justify their presentation to the medical profession generally. Preliminary reports do not imply rejection but rather postponement of consideration until more evidence is reported by competent investigators. These reports are the outposts of therapeutic progress and as such are valuable sources of information to physicians. In this volume there are preliminary reports on Adrenal Cortex Extract, concerned mostly with scientific terminology; Cysteine Hydrochlorid, Dihydroxy-Anthranol (Anthralin), Gastric Mucin, Hemoprotein (Brooks), Phenylmercuric Nitrate and Phenylmercuric Chlorid.

Illustrative of the Council's efforts to keep those concerned informed of the basis for its actions are the "Recent Revisions or Elaborations of the Council's Rules of Interest to Manufacturers and the Medical Profession," which have appeared in the last two volumes. These inform the profession of the various problems which arise and the care given to their consideration. To be commended also is the "Report on Sterility of Ampule Preparations."

The Doctor and the Public. A study of Sociology, Economics, Ethics and Philosophy of Medicine, based on Medical History. By James P. Warbasse, M. D. Price, $5. Paul B. Hoeber, Inc., Agency, J. W. Stacey, Inc., San Francisco.

No matter what position or view is held by the individual in regard to the future of medicine and medical service, this text merits reading. We are not so keenly interested in the author's philosophy as we are by the facts and the observations that he advances. Each reader will construct his own philosophy.

This text will help you to understand the problems of medicine. It will aid you in reaching a sound conclusion.

W. F. C.

(Continued on Next Page)

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BOOK REVIEWS

(Continued from Preceding Page)

Stammering and Allied Disorders. By C. S. Bluemel. Pp. 182. New York: The Macmillan Company, 1935. Price, $2.

Thirteen of the fourteen chapters are devoted to a study of stammering, considered from the standpoint of the conditioned reflex. The last chapter of nineteen pages gives hints as to the treatment of stammering.

There is an index and a bibliography. E. W. T.

The Nervous Patient. A frontier of Internal Medicine. By Charles Phillips Emerson. Pp. 453. Philadelphia: J. B. Lippincott Company, 1935. Price, $4.

Like the Handbook of Literary Curiosities, one finds a world of interesting things herein, but is often tantalized at not finding more.

The good feature is that it will stimulate one to read further and at every chapter end there is a limited bibliography to guide one in such further reading.

Especially good is the chapter on Disturbances Within the Sex Life. This subject is touched upon here and throughout the book, notably in the chapter on Neurasthenia, and always with commendable restraint.

Among other typographical errors, Ganser's syndrome is printed Banser's on page 362.

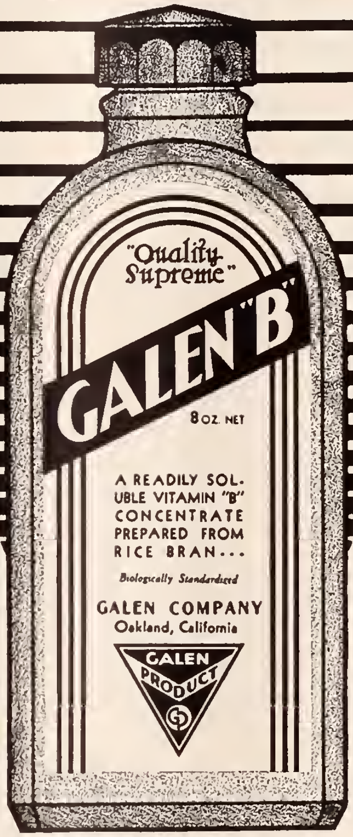
A very good book for the practicing physician or surgeon. E. W. T.

Diseases of the Skin. By Richard L. Sutton and Richard L. Sutton, Jr. Ninth edition. Pp. 1,433. Illustrated. St. Louis: The C. V. Mosby Company, 1935. Price, $12.50.

Each new edition of Sutton's textbook on Diseases of the Skin is an improvement over the previous printing. The ninth edition is no exception. It is larger with many additional photographs and descriptions of new diseases and conditions. The book contains many more photographs than most similar texts. It is in reality an atlas

(Continued on Page 20)

ANNOUNCING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BOOK REVIEWS

(Continued from Page 18)

and text in one volume—a pleasing combination for the general practitioner and student.

The authors give their own ideas in regard to therapy as well as a compilation of those of other authorities. Their chapters on syphilis and cancer are particularly good. The discussion of bismuth therapy, however, is very inadequate and obsolete. The statement that the popularity of sulpharsphenamin is on the increase is not in accord with the opinions of other observers.

Glass emanation tubes are described as the means of implanting radon into cancerous growths. Most authorities have discarded the glass tubes for gold or platinum during the past several years. For some unknown reason the fungus infection phialophera verrucosa is described under coccidioides. One per cent ammoniate of mercury ointment is given as the treatment for impetigo. In general 3 per cent to 5 per cent is considered the standard strength in the treatment of this infection. I am sure that this very readable and authoritative textbook will be a valuable addition to the book shelves of the student and practitioner of medicine.

H. E. M.

Surgical Pathology of the Peritoneum. By Arthur E. Hertzler. Pp. 304. Illustrated. Philadelphia: J. B. Lippincott Company, 1935. Price, $5.

The author has produced a number of monographs on surgical pathology of various regions of the body and various tissues. The present one is concerned with the surgical pathology of the peritoneum and undoubtedly is considered from the viewpoint of instruction for medical students and young surgeons. The anatomy and physiology of the peritoneum are first discussed, following which two chapters are devoted to the healing of peritoneal wounds and the development of peritoneal adhesions. The volume is profusely illustrated and should be adapted for ready reference.

Five chapters are utilized to discuss the general subject of peritonitis—pathology of general peritonitis; localized; diffusing, fulminating and localized abscess. In view of the fact that each of these types of peritonitis is discussed in relation to the various organs in the abdomen about which peritonitis may develop, it follows that there is a great deal of unnecessary repetition, unless repetition is required for emphasis.

(Continued on Page 22)

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BOOK REVIEWS

(Continued from Page 20)

The volume is entirely an expression of the personal observations and beliefs of the author, and although there is a short bibliography with a commentary, other authors' names are not mentioned in the text; resulting in a volume that is pleasant to read. There will, however, be many who disagree with the author when he states that developmental peritoneal bands cannot be the source of abdominal symptoms and should be left alone, and when he advocates the conservative treatment of acute gall-bladder disease. The author also disbelieves in the occurrence of paralytic ileus. This leaves the reviewer to quote from the text of the book where the author states the "beginner should not believe all he reads."

O. H. P.

New and Nonofficial Remedies, 1935. Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1935. Cloth. Pp. 510. Price, $1.50. Chicago: American Medical Association, 1935.

In this book the Council on Pharmacy and Chemistry lists and describes the medicinal preparations that it has found acceptable for general use by the medical profession. A glance at the list of the Council members and the long list of consultants appearing in the first part of the book gives ample warrant for the authority of the Council's selections.

Not only does the Council "accept" new preparations, but from time to time it omits those which have been accepted but which have not with the lapse of time upheld their original promise of therapeutic merit. The list of omissions for 1934 shows that the Council has been mainly concerned in this respect with B. acidophilus preparations and with antiseptics. Several preparations of each class have been omitted. The list of admissions does not reveal the presence of any preparation that promises to be epoch making in the sense that insulin was, for instance. However, the following newly accepted preparations are noteworthy; carbarsone, an arsenical used chiefly in the treatment of amebiasis (the Council published a special report on this drug, supplementing the preliminary report of 1932); hippuran and diodrast, two different types of urographic contrast mediums: carotene, the precursor of vitamin A; dilaudid, a substitute for morphin; neosynephrin hydrochlorid, which

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A valuable feature of the book is the grouping of preparations in classes. Each of these is introduced by a general discussion of the group. Thus the silver preparations, the iodin preparations, the arsenic preparations, the animal organ preparations and the biologic products are each preceded by a general discussion of the particular group. These general articles compare the value of the products included in the group with similar pharmacopeial and other established drugs which it is proposed that these proprietary preparations shall supplement or supplant.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the "Bibliographical Index to Proprietary and Unofficial Articles not Included in N. N. R." of much value. In this section (in the back of the book) are given references to published articles dealing with preparations that have not been accepted. These include references to the reports of the Council, to reports of the American Medical Association Chemical Laboratory and to articles that have appeared in *The Journal.*

The Kidney in Health and Disease. Edited by Hilding Berglund, Grace Medes, G. Carl Huber, Warfield T. Longcope, Alfred N. Richards. Lea & Febiger, Philadelphia, 1935.

This book is not intended for a textbook. It should be read critically and many of the conclusions cannot be accepted as final because the subject is in transition. However, it undoubtedly is the most comprehensive and authoritative record to date, and, if read and studied as it should be, will act as an important stimulus to the advancement of our knowledge of renal structure and function in health and disease.

(Continued on Next Page)

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BOOK REVIEWS

(Continued from Preceding Page)

The symposium of which this book is the outgrowth was given at one of the most remarkable medical meetings ever held. Hilding Berglund, Professor of Medicine at the University of Minnesota, gathered together, as nearly as possible, for a week of daily presentations and discussions all those men throughout the world who had shown by their work a superior knowledge of renal structure and function in health and disease. It was a large and highly successful undertaking. This published record of scientific monographs gives no idea of the enthusiasm and mental stimulation experienced by those in attendance.

The tone of the meeting was highly scientific. Of the forty-one contributors, nineteen were full-time scientists, each of whom had advanced remarkably the knowledge of renal structure and function. Eight of these were pure experimentalists connected with institutions of research and eleven were full-time professors, two of pathology, two of anatomy, three of physiology, and four of pharmacology. These men alone formed a remarkable group for a symposium. The meeting, however, would have been incomplete without the participation as essayists of twenty-two clinicians, each a specialist in diseases of the kidney, who by their active enthusiasm at the time, as well as by the record of their past experimental and clinical studies, were qualified to take part in the symposium and thereby vitalized it.

The names of Huber, Richards, Marshall, White and others renowned for scientific contributions, of Bell, Volhard (who with Fahr gave the first satisfactory classification of Bright's disease), Longcope, Snapper, Rowntree and others, known for their pathological and clinical contributions, illustrate the high standard of this unprecedented gathering. These were the essayists whose efforts could be stimulated only by the true appreciation of a proper audience. In addition to the faculty and student body of the University of Minnesota, scores of members of the faculties of medical schools and institutions throughout the country represented their universities at this gathering. These men were encouraged to discuss and to criticize. The tension of a gathering of more than a hundred minds, each full of ideas and knowledge about the kidney, imparting, questioning, absorbing, was like a Billy Sunday camp meeting. By the end of the week one could imagine that the subject and the members would have been completely exhausted. Fortunately, however, as may be realized on reading this book in which each monograph has been brought up to date now five years later, much is yet to be learned about the kidney in spite of so many recent advances. The symposium was a great success and another of its kind every five or ten years until the subject is mastered would be a wonderful stimulus.

The editors have succeeded well in arranging the material into six parts. The subjects and speakers, selected by Doctor Berglund, an internist, show quite clearly that the clinical interest of this symposium lay in a discussion of Bright's disease. In view of the few exceptions (chapters 19, 20, 24, 25 and 26), this plan might well have been made absolute. Even so the subject of Bright's disease is covered incompletely and disconnectedly. The objective was a compilation of established facts of structure and function in health and disease, and an internist's

(Continued on Page 26)

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BOOK REVIEWS

(Continued from Page 24)

viewpoint of renal disease naturally is medical. This diminishes in no way the value of this compilation as a book of reference for all students of the kidney.

The facts presented in Part I are fundamental and should be equally familiar to the renal surgeon (urologist) and the physician (internist).

It seems blasphemous to question the clear logic of Richards. However, when he fills (on page 42) "the tubules of a freshly excised kidney . . . with phenol red solution by injection *via* the ureter" and notes that the whole kidney becomes "uniformly pink," one wonders whether instead of tubular backflow he has not produced pyelovenous and lymphatic backflow, the possibility of which he fails to mention and the occurrence of which would weaken his conclusion.

Having dared to seize the horns of one bull makes one foolhardy enough to grapple with another. On pages 60 and 61 Marshall writes, "The excretory organ or kidney of the protovertebrate ancestor of the fish was presumably aglomerular, and in the course of the evolution of the earliest fishes the glomerulus was developed in response to a need for excreting water which was taken up in large amounts from the fresh-water medium in which these animals lived. With a migration to the sea, the need for the glomerulus ceased because water was no longer being taken into the organism in large amount and because the gills could excrete considerable water, due to the difference in the external medium to which they were now subjected. Hence the kidney of the marine teleost has become, or is becoming, aglomerular. All fresh-water fish, however, teleosts, ganoids and dipnoans, as well as the amphibian still have need of active glomeruli. The reptile has completely eliminated itself from the necessity of an aquatic environment and has no need for glomeruli unless a new purpose is served by them. The same holds true for the birds and mammals.

"If we examine the character of the glomerular development in the different groups of vertebrates, we find that it agrees fairly well with the above hypothesis. In general, we can say that the development of glomerular surface in fresh-water teleosts, ganoids, dipnoans, amphibians and mammals is extremely good, while in marine teleosts, reptiles and birds it is distinctly poor. If we adopt a subsidiary hypothesis that in the mammals (and to some extent in the lower vertebrates) the primitive water-excreting function of the glomerulus has been secondarily diverted to the excretion of waste products, we see that the known facts agree well with the hypothesis."

This hypothesis and its subsidiary appear untenable for the following reasons: Evolution teaches that the ancestor of a primitive chordate (vertebrate) was some invertebrate form of life. No existing form of invertebrate life has glomeruli. The lowest chordate, amphioxus, a worm-like animal with a notochord, gill slits and a canalized nervous system (structures which characterize all members of the chordate family, including man), has a pronephridium with solenocytes, an excretory organ similar in form and function to the pronophridia of some of the lowest invertebrates, particularly annulata. This is the only living connecting link of vertebrates to invertebrates, and the full magnitude of this fact appears upon realizing that, phylogenetically, amphioxus is farther removed from a lamprey or hag (cyclostomi) (the next lowest living chordate) than the lamprey or hag is from man. It is probably true, as Marshall states, that the kidney of the protovertebrate ancestor of the fish was aglomerular. However, the blind-ending aglomerular tubules of a teleost would not be homologous. Probably

(Continued on Page 29)

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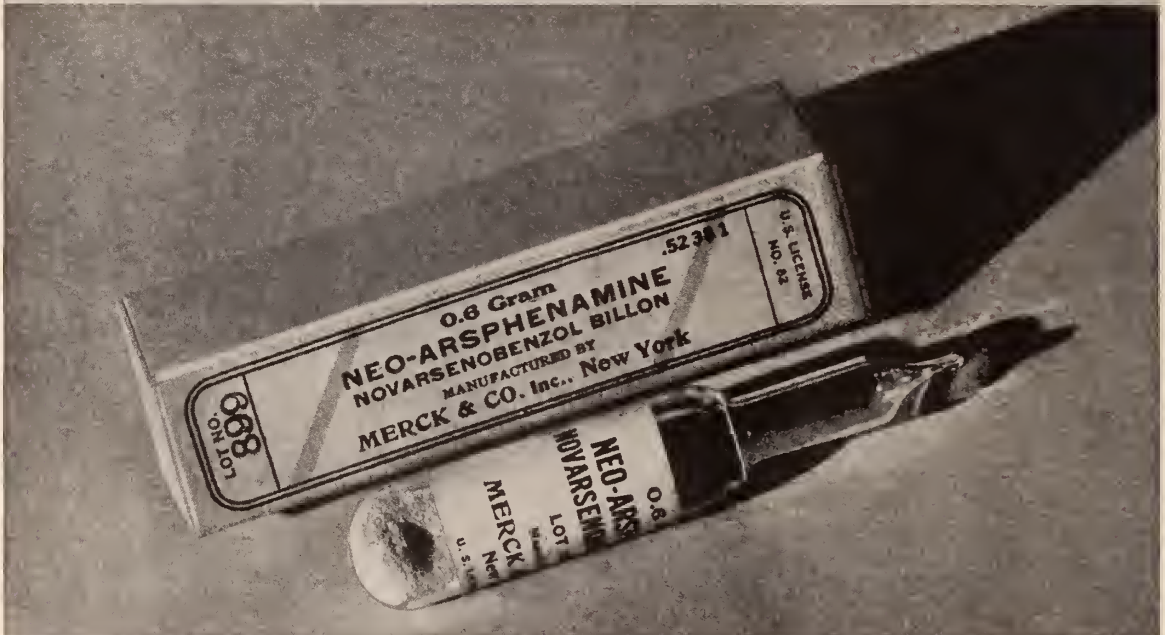
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BOOK REVIEWS

(Continued from Page 26)

the ancestor of a fish had a pronephros, segmental open tubules developing before the pronephric duct with nephrostome opening off the coelomic cavity into which projects an external glomerulus unrelated to the tubule. The tubule arises from the primitive segmental stalk, the glomerulus is coelomogenic. Probably the ancestors of these primitive forms had nephrostomal tubules without external glomeruli in no way homologous with the blind-ending tubules of teleosts. No adult living form has a functioning pronephros. Many larval forms of cyclostomi, fish and amphibia have functional pronephroi. In many of these forms, when they reach adult life, nephrostomes persist on mesonephric tubules. Phylogenetically the nephrostome is a necessary structure in the aglomerular kidney of the protovertebrate ancestor.

Also untenable seem the ideas, advanced by Marshall, that the earliest fishes were of fresh-water type and that "the glomerulus was developed in response to a need for excreting water," and that "with migration to the sea later the need for the glomerulus ceased," hence the aglomerular kidney of teleosts, etc. Why, then, do not other marine fishes have aglomerular kidneys? It is probably true that the ancestor of amphibia was a fresh-water ganoid and it is also probable its ancestor was an aglomerular marine animal (in no way homologous to a teleost). The gradual development of glomeruli permitted the offspring of this ancestor to leave the sea for fresh water, and glomeruli, as evolved from pronephric through mesonephric to metanephric stages, have permitted the transition of vertebrate life from salt water to fresh water to air.

The aglomerular kidney of marine teleostomi may be compared to other developmental discrepancies. The lowest forms of anthropods have an excretory organ (a metanephridium) but higher forms of this phylum, such as insects, lack a true emunctory except the malphigian tubes, which are intestinal. None of the adult echinodermata, highly organized forms of animal life in other respects, has an excretory organ of any kind although, in the larval stage of many, a true emunctory (pronephridium) is present. So in the case of marine teleosts the gills and intestinal tract may have taken over glomerular function; and the aglomerular kidney is a developmental anomaly without homologous relation to the evolution of excretion.

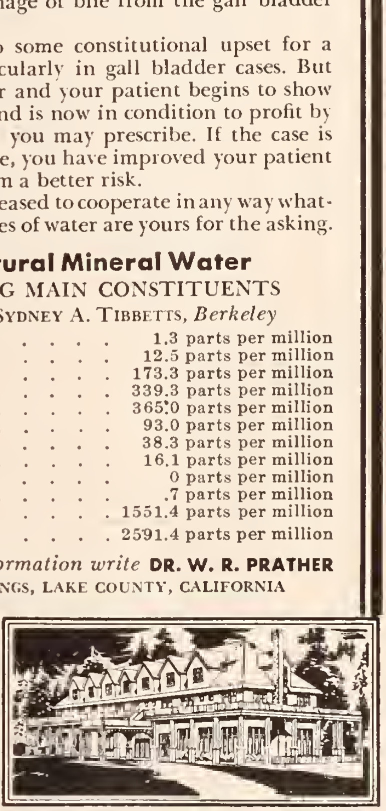
The clinical aspects of renal functions (Part II) are presented in a scientific manner and should be studied, if not put to practical use, by every doctor diagnosing diseases of the kidney, whether medical or surgical.

An established custom which seems curious but of little importance is the use of the term phenol red by the research workers and of phenolsulphonephthalein by the clinicians. On page 199 Rowntree writes: "(4) Experimental evidence seems to indicate that phenolsulphonephthalein is excreted mostly by the tubules but probably also to a slight extent by the glomeruli," which is contrary to Richards' demonstration in the frog of glomerular ultrafiltration and tubular reabsorption as the process of excretion of phenol red.

The chapter by Rehberg (page 73) clarifies many of these discrepancies and the renal student should compare this presentation of the modified theory with Cushny's original monograph (*The Secretion of the Urine*).

About each of the remaining chapters of the book something of praise and interest could be written.

A child will learn three times as fast when he is in tune as he will when he is dragged to his task.—Locke.



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TWENTY-FIVE YEARS AGO

(Continued from Text Page 248)

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From an article on "The Problem of Pre-Medical Education" by T. W. Huntington, M. D., San Francisco.

. . . At the present time there are 150 medical schools in this country. Many of these are maintained upon the basis of illy paid or gratuitous services upon the part of teachers, and a system of instruction palpably inadequate. Doctor Pritchett insists that, for the next century, one-half or possibly one-third of this number, generously endowed and wisely administered, will furnish ample educational facilities for all interested. . . .

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From an article on "Some Notes on Nitrous Oxid and Oxygen for Prolonged Anesthesia and a Report of a Few Critical Cases" by Edith Hammond Williams, A. B., M. D., San Francisco.

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From an article on "Comments on Tropical Medicine" by Creighton Wellman, Oakland.

Human Plague Again.—The occurrence of another case of human plague in California emphasizes the continued danger which inheres in persistent rodent plague among us. It is to be hoped that the federal government will not relax its admirable work in our midst, and that the State and profession of California will continue every effort to protect our citizens from a possible epidemic of this disease.

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Tropical Medicine at Vallejo.—The last meeting of the Northern California Medical Society, held at Vallejo, was the occasion of an enthusiastic symposium on tropical medicine. Dr. C. J. Geiger of the Navy read a paper on gangosa, a new and formidable tropical disease which has appeared among us. Dr. H. R. Oliver of San Francisco presented a paper on hookworm in California, and Dr. Herbert Gunn of San Francisco, and the writer, each gave general addresses on some of the tropical diseases of this State. . . .

Lane Medical Lectures for 1910.—The directors of Cooper Medical College have the honor to announce that the Lane Medical Lectures for 1910 will be given by Reginald Heber Fitz, M. D., LL. D., Hersey professor of the theory and practice of medicine, Harvard University. The course will consist of six lectures, entitled: "A Consideration of Some Features of the Lymphatic System," including the discovery of the lymphatics and the recognition of their importance; status lymphaticus and thymus hyperplasia; lymphangiectasis and lymphangioma; pseudoleucemia; Hodgkins' disease, and lymphosarcoma. . . .

BOARD OF MEDICAL EXAMINERS

(Continued from Text Page 248)

ported 'not at home' for the third successive day today, and his fantastic design to freeze a human being to death and later attempt to revive him, appeared to be headed for oblivion. . . . The chemist now is believed to have left town. Investigators sought to question him concerning reports he had posed in Kansas City as a Russian prince. Willard startled scientists here last week when he announced that he had revived a tubercular monkey assertedly frozen for three days. Then he announced that Stephen Simkhovitch, son of a Columbia University economist professor, had agreed to submit to a kill-freeze-revive experiment." (San Francisco *Chronicle*, August 13, 1935.)

Dr. Alderson announces the reorganization of his office staff with the following personnel:

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"Found guilty on three counts of violating the State Medical Practice Act, E. B. Hartman, San Bernardino chiropractor, today was fined $180 by Justice Russell A. Wickizer or given an alternative sentence of ninety days in the county jail. The major fine of $100 or fifty days was levied for practicing medicine in connection with a cancer treatment, consisting of an injection of an antitoxin with a hypodermic syringe. He was fined $50 or twenty-five days for practicing a profession without a proper license, and $30 or fifteen days for using a hypodermic syringe. Hartman was arrested by an investigator for the State Medical Board after he had advertised his cancer cure. The State Board

(Continued on Page 34)

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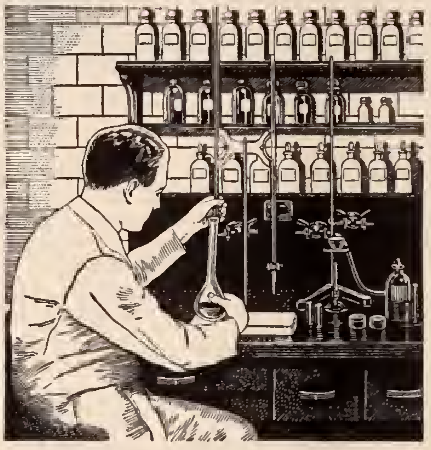

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1. It is more effective than other drugs.
2. It is less toxic than other arsenicals.
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CALIFORNIA
AND
WESTERN MEDICINE

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EDITOR . . . . GEORGE H. KRESS

Advertisements.—The Journal is published on the seventh of the month. Advertising copy must be received not later than the fifteenth of the month preceding issue. Advertising rates will be sent on request.

BUSINESS MANAGER . FREDERICK C. WARNSHUIS

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Change of Address.—Request for change of address should give both the old and the new address. No change in any address on the mailing list will be made until such change is requested by county secretaries or by the member concerned.

Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this Journal write to its office requesting a copy of this leaflet.

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EDITORIALS†

COMMENTS ON RECENT CALIFORNIA LEGISLATION

Pure Drug Act (Assembly Bill No. 1282).—This measure, passed by the Assembly on May 17, 1935, and by the Senate on June 10, did not become a law, lacking approval by Governor Frank F. Merriam. A companion bill (Assembly Bill No. 1281), known as the Pure Food Act, unfortunately followed a similar course. The two measures were sponsored by the California State Board of Health. A paragraph in Assembly Bill No. 1282 indicates some of the purposes of the Act:

> "SEC. 6. A new section is hereby added to the act cited in the title hereof, to be numbered 6*a* and to read as follows:
>
> "SEC. 6*a*. The advertisement in any matter or by any means whatever of drugs, treatments or cures of whatsoever nature for venereal diseases, syphilis, impotency, self-abuse, cancer, tuberculosis, diabetes, heart trouble, is hereby forbidden; except that no advertisement within the provisions of this section shall be forbidden if it is disseminated only to members of the medical and pharmaceutical professions or appears only in the scientific periodicals of these professions, or if it is disseminated only for the purpose of public health education by persons not commercially interested, directly or indirectly, in the sale of such drugs, treatments or cures."

An interesting sidelight on Assembly Bill No. 1282 were the editorial objections thereto, printed in some of the leading newspapers of the State, presumably in response to trade influence, that is, of the advertising departments. One of these editorials we quote, that members of the medical profession may discern for themselves how lay interests seek to "educate" the public, when the matter of dollars and cents in their business threatens to become involved. The editorial is cleverly written, and for the average citizen, perhaps might have considerable appeal:

A NUISANCE MEASURE

> "Awaiting action by Governor Merriam is a State 'Pure Food and Drug Act,' Assembly Bill No. 1282, which should be vetoed.
>
> "There is supposed to be a halo of sanctity about such legislation passed for the protection of the public.
>
> "This measure, however, would give practically no protection which the public does not receive from existing laws, and it would be a nuisance both to

---

† Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

dealers in drugs and to manufacturers of drugs within and outside the State.

"Trade in such highly specialized products as drugs and medicaments is chiefly interstate commerce, and should be controlled by federal, not by local laws.

"The public is amply protected by such legislation as Congress passes with the advice of the United States Public Health Service, and State laws, even if they differed but slightly from federal legislation would bring confusion to the industry and increased cost to the consumer.

"California dealers and manufacturers do not object to the bill because it is more drastic than existing State laws or the pending federal legislation, but chiefly because it would confuse business, be a nuisance, without accomplishing any beneficial results, and it would give the State Board of Health power to make trouble for the drug business in the State.

"The bill should be vetoed; if Congress passes its new Pure Food and Drug Act, the State could duplicate that legislation if necessary, but the confusion of conflicting laws should be avoided."

* * *

Assembly Bill No. 246: For Nonprofit Hospital Service.—This new statute was printed in full on page 175 of the August issue of CALIFORNIA AND WESTERN MEDICINE, and at that time comment concerning it was made on page 107 of the magazine. At the session of the Council of the California Medical Association, to be held in Los Angeles on September 7, this measure is on the docket for special consideration. Members are again urged to read the law, and to send to the central office of the Association the names, addresses and other information of all corporations organized for the purpose of operating nonprofit hospitals, of which they hear. As previously stated, the language of the bill is sufficiently elastic to permit abuses easily to develop. Component county societies should, therefore, urge their members to notify their county and state society secretaries of every newly-formed, nonprofit hospital service corporation, so that such may remain under observation. The principles involved justify the allocation of such inspection work to a standing or special committee of each county society.

* * *

Senate Bill No. 468 (Providing for Issuance of Instructions to Restrain Persistent Medical Practice Act Violators).—The dental profession is fortunate in securing approval of their bill, but it is to be regretted that a somewhat similar enjoining measure, intended to make stronger the Medical Practice Act, was not likewise approved. Under present-day legal procedure, in county, district and state courts, such a law could be of great value in protecting the public health. At the next legislative session, an earnest effort should be made to secure the enactment of a corresponding and much-needed statute.

* * *

Assembly Bill No. 1765 (Safeguarding Issuance of "Degrees, Diplomas and Certificates").—This measure, referred to on page 47 of our July issue, was sponsored by the "League for the Maintenance of Professional Standards." For many years, charters for educational institutions have been granted by the State of California without taking into proper consideration the material equipment or scholastic facilities of applicants, with the result that the lack of adequate legal requirements has made for the creation of a pseudo-scholastic racket. Witness, in this connection, items in previous issues of CALIFORNIA AND WESTERN MEDICINE, and one, more recent, outlined in this issue, in the Correspondence column, on page 246.

This long-needed law should be followed by additional legislation two years hence.

RÔLE OF PHYSICIANS IN MAJOR DISASTERS: A WORK FOR COMPONENT COUNTY SOCIETIES

An Admirable Los Angeles Ordinance.—On January 6, 1934, the Los Angeles City Ordinance 73,309 became effective; its purpose being to provide "a coördinating organization, and to be prepared to meet the needs of the citizens of Los Angeles, in the event some major physical or other catastrophe overtakes us."

Californians who were in the San Francisco Bay region and Long Beach disasters need not be told the importance of a coördinating organization, possessed of power to bring order into being where only chaos exists, such as is in evidence when a severe earthquake brings about the destruction of buildings and homes, loss of human life, and the spread of disease and suffering, as well as other deplorable conditions. Because of such experiences, and because no one can foretell what major physical disaster may at some time befall thickly settled communities, it seemed wise that an ordinance such as is referred to above should have been enacted by Los Angeles, now a metropolitan center of more than one million population.

* * *

Reasons for Discussion of Major Disaster Needs.—For several reasons this subject is here called to the attention of members of the California medical profession.

First, because in the twenty-four to forty-eight hours immediately following a major physical disaster in a large community, with attendant loss of life and injury to human beings, it is the services of physicians and surgeons, and their auxiliary aids, that are in greatest demand;

Secondly, medical and surgical service can be most efficiently rendered, if the members of the profession work through a centralized medical organization; and

Third, what has been accomplished to date in Los Angeles, under the provisions of the ordinance referred to above, may well be a matter for consideration in other cities of California.

* * *

Hospitals Exist for Analogous Emergencies.—In civil life, under ordinary conditions and often without warning, illness and injury of a serious nature happen to human beings. To give such persons that prompt and efficient aid that will make for protection of life and an early return to useful occupations, hospitals have been established. Hospitals promote life-conservation, because they have the facilities which enable physicians and surgeons to work to best advantage; one of the outstanding characteristics of a good hospital being its quiet and orderly efficiency. In other words, waste and duplication of haphazard effort are eliminated in hospitals.

* * *

The Value of an Organized Profession in Major Disasters.—In a major physical disaster to an entire community, such orderly system must obtain if the health, well-being and lives of human beings, caught in a like catastrophe, are to be properly safeguarded. At such times, bewildered citizens instinctively turn to their physicians and spiritual advisers; and the members of the medical profession can render services of inestimable value and second to none if, beforehand, they are so organized that, in spite of the dreadful confusion, each physician is at a responsible post for needed service.

* * *

Excerpts from the Los Angeles "Major Disaster Ordinance."—Because of past experiences, many readers will be interested in the following excerpts on some of the provisions of the "Ordinance creating a Major Disaster Emergency Council and prescribing its powers and duties":

"Sec. 2. There is hereby created a Major Disaster Emergency Council, which shall consist of the Mayor of the City of Los Angeles, a representative of the Los Angeles Chamber of Commerce, a representative of the Los Angeles Chapter, American Red Cross, and all the officers and members of each of the following enumerated units and their subcommittees, which units shall perform the duties and functions imposed upon them by the provisions of Sec. 3, hereof, to wit:

(*a*) Coördination and Intelligence
(*b*) Transportation
(*c*) Communication
(*d*) Personnel, American Legion
(*e*) Law and Order
(*f*) Fire
(*g*) Water and Water Supply
(*h*) Street Facilities
(*i*) Medical Health and Sanitation
(*j*) Necessities of Life
(*k*) Shelter
(*l*) Rescue
(*m*) Rehabilitation
(*n*) Finance.

"Sec. 3. It shall be the duty of said Emergency Council to undertake to coördinate all resources of the City of Los Angeles and the various citizens and said city, together with the resources of various corporations, business houses and associations doing business in the City of Los Angeles, and by means of mutual coöperation and effort create a plan which would permit an effective and efficient method of utilizing all available resources and materials for relief of and the general welfare of the people of the City of Los Angeles in the event some major catastrophe, disaster, calamity, or cataclysm overtakes us. . . .

"Sec. 4. The Mayor of the City of Los Angeles shall be Chairman of said Emergency Council. . . . The Mayor shall have the power, in his discretion, to declare when an emergency disaster exists, and it shall be the duty of the City Council of the City of Los Angeles to confirm and ratify the acts of the Mayor, acting in his capacity as Chairman of the Emergency Council, during the condition of emergency. . . .

"Sec. 5. Those persons acting as Chairmen of the Units enumerated in Section 2 hereof, after letters (*a*) to (*n*), inclusive, the Mayor, a representative of the Chamber of Commerce, and a representative of the American Red Cross, shall be known as 'Emergency Disaster Executive Committee,' and upon the declaration of the Mayor that an emergency exists, he shall forthwith establish communication between himself and the Executive Committee of said Council. The members of said Executive Committee shall be in charge of and direct the following divisions or units of the plan contemplated:

". . . (*i*) *Medical Health and Sanitation.*—The Medical Health and Sanitation Division shall be under and subject to the control of the Los Angeles Health Department, and shall have charge of and direct:

1. Hospitalization
2. Vaccination
3. Quarantine
4. Food Inspection
5. Sanitation
6. All physicians, surgeons and nurses
7. Medical and surgical supplies
8. The Chairman of the Medical Health and Sanitation Division shall organize, for the assistance and coöperation of the health department, all outside physicians and surgeons, nurses and hospitals.

"Sec. 6. Each and all divisions herein above referred to shall be under the control and direction of a Chairman, and in the absence of express declaration to the contrary, by a majority of the members of the Executive Committee, and he shall do any and all acts imposed upon the Division of which he is in charge. The Chairman, and two alternate Chairmen of each such Division shall be appointed by the Mayor of the City of Los Angeles, subject to the approval of the City Council, and shall hold office for life during good behavior; provided, however, that, should he resign or become disqualified to act, the vacancy created in such chairmanship, or alternate chairmanship, shall be filled by the majority of the members of the Executive Committee.*

"Sec. 7. In the event of the declaration of any emergency, it shall be the duty of the Mayor to notify all members of the Emergency Council of said declaration, and all of such members shall forthwith assemble at Westlake Park."

* * *

The General Plan of a Major Disaster Council.—A perusal of the above indicates the type of organization under which the Major Disaster Council may be expected to operate. In Los Angeles, Mr. Basil Rice, a member of the Fire Department, was assigned as executive-secretary of the Council, and in his office have already been gathered all available information from the twelve subcommittees above mentioned, the executive group of each of which consists of three men, a chairman, a first alternate chairman and a second alternate chairman. Each of these subcommittees has made a detailed survey of all possible human and material resources having to do with its functions. An earthquake proof building in Westlake Park would be the central operating headquarters in an emergency, and to this place the three members of each subcommittee would go to institute needed work in certain subheadquarters or camps located in different zones or concentration districts of the city.

---

* In Los Angeles the executive group for the medical division appointed by Mayor Frank Shaw consists of Dr. George Parrish, chairman; Dr. Edward Pallette, first vice-chairman; Dr. George H. Kress, second vice-chairman.

What the Medical, Health and Sanitation Unit Has Done.—The three members of the Medical, Health and Sanitation Unit or Committee have divided their work: one member supervising the organization of members of the medical profession; another, the hospitals; and a third, the nursing personnel and general medical supplies. The medical personnel has been grouped by assembly districts, the assembly organization of the Los Angeles County Medical Association being utilized in large part as the best basis for effective action. Somewhat similar information has been obtained concerning nurses. In the tabulated list of hospitals, the following information has been gathered: name of hospital and location; names, addresses and telephones of the hospital superintendent and assistant superintendent; name and address of the chairman of the hospital board of directors; name and address of hospital superintendent of nurses; list of nurses in hospital; names and addresses of the attending staff chairman and secretary; addresses of ambulance entrances to hospital; nominal bed capacity; additional emergency bed capacity; emergency equipment supplies in possession of the hospital; names and addresses of hospital staff's disaster committee.

The above details are here outlined because they indicate how much preliminary information must be obtained if medical and sanitation activities are to be promptly and efficiently carried out in the event of a major physical disaster.

* * *

Every City Might Well Have a Major Disaster Council: County Medical Societies Should Help.—It would seem desirable that every city of considerable size in the State might well have an ordinance modeled somewhat after the one here discussed. But in the event such an ordinance is not adopted by a city, would it still not be a proper procedure for each component county medical society, through a Major Disaster Committee, to make a study of its local problems, and at least institute a paper organization, somewhat as outlined above in so far as health, medical and sanitation work are concerned? If experience is of any worth, then what has occurred in some of the communities in California, in days gone by, should lead all who have at heart the welfare of their fellows, to take steps to provide all adequate medical and other care that could be needed in a major disaster. Here is a work in which the component county medical societies of the California Medical Association could act as clearing houses and render a real service to the municipalities located in their respective territories. Component county societies might well take up a consideration of this work when the fall meetings convene.

SOME FACTS ABOUT PRESENT-DAY MEDICAL STUDENT TRENDS

Place of the Association of American Medical Colleges in Medical Education.—The advancement which has taken place in recent years in the teaching methods of American medical schools is due, in good part, to the influence exerted by the Association of American Medical Colleges, an organization antedating by some years the formation, in 1904, of the Council on Medical Education and Hospitals of the American Medical Association. Practically all Class A medical schools hold membership therein. It should interest California physicians, that their medical practice act for many years stipulated, as the basis of its scholastic standards, those of the Association of American Medical Colleges (for years corresponding to dates of graduation), thus preventing, in that way, the medical practice law in its formative period from becoming frozen with obsolete requirements. The Association prints a modest bimonthly official publication, the *Journal of the Association of American Medical Colleges*, each number of which is replete with articles of importance by medical teachers. A survey of the contents of succeeding issues of the publication enables one to obtain a fairly accurate estimate of the trend of present-day medical curricula and teaching methods, and the direction in which changes are taking place.

* * *

A Recent Study.—An interesting paper in the July, 1935, issue, for example, is the opening article, "Study of Applicants for Admission to the 1934 Freshman Class of Seventy-nine Medical Schools," by Dr. Fred C. Zapfe, who has been the association secretary for many years. The study is the seventh in a series of projects of educational researches sponsored by the Association. Doctor Zapfe's eighteen-page article presents the results obtained in an analysis of more than 70,000 medical student applications, as collected and compiled during seven years of careful investigation. Some of the facts brought out shed real light on the kind of preliminary education possessed by young people, who, during the last ten years, have felt an urge to take up the study of medicine. The manner in which they hoped to secure entrance into medical schools, and their ultimate collegiate fate are also reviewed. The article is written in a style that permits taking out parts or the whole of individual sentences without destroying the important facts set forth in the study. We accordingly present below a series of such selections which should be of interest to all physicians who have watched the lines along which American medical schools have been developing during the years that have elapsed, since the publication of the Carnegie-Flexner report of some two decades ago:

> The study has been made over a period of seven years, since it was begun in 1926 (the study was not made in 1930 nor in 1931). Nearly 200,000 cards are on file, representing more than 70,000 applicants, collected during seven years of investigation. The number of applicants has increased nearly 30 per cent since 1926, the rise being a steady one through all the years of the depression.
>
> . . . Hundreds of American students are attending the so-called "extramural medical schools" of Great Britain. They are not listed on the British medical students' register, hence their credentials are not submitted to the General Medical Council of Great Britain. . . .

. . . There has not been any abatement in the desire of young men and women to become physicians. . . .

. . . First, there was an increase of 9 per cent in the number of applications made in 1934 over the number made in 1933, and an increase of 5.5 per cent in the number of applicants. . . .

. . . Second, the number of rejected applicants was 14.5 per cent greater in 1934 than in 1933. . . .

. . . Attention must be called to the fact that all accepted applicants do not matriculate. In 1933, only 88 per cent (6,650) of the 7,550 applicants accepted were reported as having matriculated. Of the 7,419 applicants accepted in 1934, 6,702, or 90.3 per cent, matriculated, the largest freshman class of all time.

It is not possible at this time to give the reason or reasons why all of the accepted applicants do not matriculate. . . .

. . . Many applicants are accepted by more than one medical school. . . .

. . . One man has made seventy-two applications in three years, not including applications made to schools in Great Britain (an extramural school accepted him), a record of which is on file in this office.

TABLE 2.—*Data by colleges on total number of applications made and action thereon (men and women).*

School	Accepted	Rejected	Total	Registered in 1934 Class
Medical Evangelists..	132	113	245	115
Stanford	82	127	209	61
California	77	161	238	64
Southern California ..	56	34	90	53

As for the reasons for rejection: All of the items listed on the card can be evaluated accurately, except 1-3, "class full." The colleges were requested to report under this head only such applications as would or could have been accepted on the basis of scholarship if the quota had not been filled, that is, scholarship satisfactory, quantitatively and qualitatively. Therefore, rejection for this reason cannot react detrimentally against the applicant.

Of the total rejections, 7,839, or 26.1 per cent, of the total number of applications fell into this classification (class full). . . .

. . . One fact is outstanding, namely, that the number of applications made by applicants with less than four years of preparation (graduates and nongraduates) is steadily diminishing year by year. . . .

. . . The smallest number of applications accepted fell in the B. S. group, despite the fact that this group would doubtless be able to meet all the requirements, so far as required science subjects are concerned. . . .

It is evident, then, that there is not any discrimination against those applicants who have less than three years of college work. The A. B. and B. S. men are virtually on the same footing, although the chance of being accepted is somewhat in favor of the A. B. men. . . .

A check on the freshman class of 1934 as to preparation for the study of medicine shows that only 16 per cent had less than three years of college work; 52 per cent had a degree. . . .

. . . Apparently, women are ablaze with ambition in 1934 to study medicine. About 21 per cent more applications were made by them in 1934 (1,034) than in 1933 (833), and there was the same increase in the number of applicants, 507 in 1933; 636 in 1934. . . .

. . . Evidently the women prefer to attend a coeducational institution. . . .

. . . Therefore, 36.3 per cent of the applicants came from three states in which 25 per cent of the population of the United States resides. About 51 per cent of the applicants came from six states, each represented by more than five hundred applicants. The population of these six states was approximately forty-six million, or 38 per cent of the total population of the United States.

Nor is it possible to predict how many of these applicants will return to the state from which they made application. . . .

. . . However, previous studies have shown that 25 per cent of every entering class fail to graduate. If all of the applicants accepted in 1934 matriculate, which is not likely, judging by past experience, 5,600 will graduate. If, as in previous years, 12 per cent will not matriculate, the number of graduates in this class will be 5,000, far beyond the need of replacements.

RECENT NEWSPAPER PUBLICITY ON PSEUDO-DOCTORS AND PSEUDO-SCIENTISTS

To give space, in the official journal of the California Medical Association, to articles which, in August, covered many columns in California and eastern newspapers, on the so-called scientific experiments of an individual in Los Angeles who claimed to be able to revive animals killed by cold, goes somewhat against the grain. This aversion is more pronounced since these lay publications had authoritative information that no records have been produced to show that the alleged "scientist" holds the degree of doctor of medicine, but that further, and on the contrary, he was already even convicted in California of violation of the Medical Practice Act! The whole background of the "researches" was far afield from standards set by real research workers in universities and laboratories.

The display write-ups and photographs of the individual in question, and those in attendance, often presented on the first pages, were little less than nauseating to members of the medical profession, and to that portion of the general public possessed of sufficient intelligence to read between the lines and understand the make-believe procedures.

Such publicity in English, French and German newspapers is rarely, if ever, seen, and that is why pseudo-scientists fail to thrive in those advanced, yet more conservative countries. Here, in the United States, newspapers practically take the rôle of hot-house, or forcing contrivances, when they play up, in this spectacular manner, the activities of an individual such as "Dr. Ralph S. Willard" of Los Angeles who, as recently as May, 1933, was fined and sentenced to jail for violation of the Medical Practice Act of the State. The editors of our great dailies should look up the connotation of the terms "research worker" and "scientific investigator."

The recurrent presentation of such notoriety seekers, as in the example of the other pseudo-scientist who, last year, under SERA support, even insinuated himself into place on the Berkeley campus, presents anything but an optimistic outlook for the future of our lay press. What a pity that the great amount of space so used, to mis-educate large groups of readers of limited education, could not be given over to articles that would familiarize citizens with procedures in preventive medicine, which, if adopted, would go far in the conservation of health and the prolongation of life!

Other State Association and Component County Society News.—Additional news concerning the activities and work of the California Medical Association and its component county medical societies is printed in this issue, commencing on page 232.

EDITORIAL COMMENT[†]

DELETERIOUS EFFECTS OF "BACTERIOPHAGE" THERAPY

Immunologists are familiar with the phenomenon of test-tube synergism between bacteria and homologous bacteriophage, the formation of a 'phage-bacterium complex of exalted pathogenicity and aggressive physiological function. Many investigators have feared that similar conjugations might take place in the animal body, which, under certain conditions, would contraindicate homologous 'phage therapy. Doctors Bronfenbrenner and Sulkin,[1] of Washington University Medical School, therefore, have rendered a valuable service to clinical research by devising a simple experimental method by means of which this fear may be tested.

In their technique, rabbits were injected intracutaneously with an arbitrary dose of low-virulent staphylococci. The rate of development and duration of the resulting local skin lesion were recorded daily in untreated and 'phage-treated animals. In their untreated controls, the local skin lesion reached its maximum size (2.5 square centimeters) by the end of twenty-four hours, and decreased to about half this size by the end of four days, and to about a quarter of the maximum by the end of seven days. Spontaneous healing was effected by the twelfth day.

In their hands, the rate of development, maximum size and rate of healing of this local staphylococcus infection were not affected either favorably or unfavorably by the continuous application of compresses moistened with nutrient broth, nor with "bacteriophage" (*i. e.,* filtered staphylococcus 'phage-lysate) prepared from low-virulent staphylococci. "Bacteriophage," prepared for virulent staphylococci, however, markedly accelerated the local spread of the experimental infection, and almost doubled the maximum size of the local lesion. The 'phage-treated lesions continued at about twice the control size for about eight days. Healing was effected by the thirteenth day.

While their demonstration of the complete absence of all beneficial effects of local 'phage therapy are applicable only to cutaneous lesions treated by moist compresses, their demonstration of a synergistic aggressive substance in certain routine 'phage-lysates is presumably of wider clinical application. They liken this synergistic aggressin to the "Reynals Spreading Factor," which can be isolated from certain animal tissues or bacterial cells.

Whether or not it is possible for the staphylo-aggressin to change a relatively unimportant local staphylococcus infection into a fatal septicemia has not yet been tested. The effects of this aggressive factor on chronic local staphylococcus infections, in which 'phage therapy is presumably complicated (or assisted?) by local allergic reactions, also has not yet been studied.

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OBSERVATIONS ON THE TREATMENT OF MENINGOCOCCUS MENINGITIS*

Many methods for the treatment of meningitis have been promulgated in recent years, with variations in the types of serum used, and in the methods of their introduction.

Some advocate giving the serum by alternating lumbar puncture, with cisternal puncture. Some advocate through and through drainage by combining the above-named punctures, and then introducing the serum. Some advocate its use once in twenty-four hours; some in twelve, etc. One clinician uses the newly marketed meningococcus antitoxin, the next one applies manufacturer's serum, the third still another one, and so on.

Many practitioners never see over two or three cases of the disease in a lifetime of practice, and, naturally, when a case presents itself amidst all this confusion, they are more or less at sea for an exact and rational procedure.

Based on several hundred cases over a decade of experience, during which we have constantly sought for better therapy, we are happy to recommend a newer line of procedure that in all types of cases is giving us much the best results we have so far been able to achieve. Having established the diagnosis, by staining with the standardized technique, of the Gram-negative diplococcus within the neutrophiles, either from a scratch through one of the macules on the skin, or from the spinal fluid obtained by lumbar puncture, the spinal fluid is drained off and replaced with antiserum by the gravity method, to which is added 5 cubic centimeters of fresh human serum containing complement, obtained by bleeding some Wassermann-negative donor. When the specific serum fails to flow freely and easily, no more is given. Concurrently, meningococcus antitoxin is given intravenously. The latter procedure is not repeated unless the hematogenous form of the disease predominates.

A culture is promptly made from the spinal fluid, and within twenty-four hours it is tested in the laboratory against the various antisera supplied the market by the different manufacturers. Then only that brand is selected for treatment which agglutinates the living organisms in the most dilute titer, and each time it is used, the human complement is added.

The results have been most prompt and gratifying to both physician and patient. One may never predict which serum will be the one most useful, though one brand has been found to be of service far oftener than all the rest. However, where one has not the facilities for culture and agglutination, a practical procedure may be obtained in alternating different brands of serum at each treatment, adding the complement. Experiment in these cases has shown the infected spinal fluid contains no natural complement of its own.

[†] This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentations should be over five hundred words in length.

[1] Bronfenbrenner, J., and Sulkin, S. E.: Proc. Soc. Exper. Biol. and Med., 32:1419 (June), 1935.

* Article submitted on July 19, 1935.

Puncture is done every eight to twelve hours or oftener, depending upon the pressure symptoms manifested by the patient. We prefer to alternate lumbar with cisternal. Treatment is discontinued when the patient seems sufficiently well; when the organisms disappear from the spinal fluid; and when the sugar content of the spinal fluid, as measured by drops against 5 cubic centimeters of test solution, again approaches normal. Overtreatment is very deleterious. If relapse or undertreatment is feared after discontinuing spinal therapy, the patient may be kept desensitized for a suitable period by giving a small dose of serum in the muscle every fourth day. We have observed much better results with the above procedure in all types of cases of any severity than in similar cases treated by previous methods, either with antiserum alone, or antitoxin alone.

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Air Conditioning at University of California Hospital.—The air-conditioned room at the University of California Hospital, which seems to have solved a number of the problems surrounding the transmission of the common cold, has been made the subject of a special article in *The Aerologist,* a national publication devoted to air conditioning. The article describes in detail the attempts of the University physicians to have a number of selected subjects "catch cold" in the air-conditioned room without avail. Twenty-eight chronic cold sufferers were placed in the room during the experiment and subjected to many sure-fire methods of contracting their favored complaint. But none did. The only special treatment given them was purified air scientifically circulated at a constant temperature of 70 degrees.

The room, with bed space for from four to six patients, is completely isolated from the outside atmosphere. An air lock keeps the outside air down to the necessary minimum, and there are other devices which provide for a continuity of service to patients without disturbing the atmospheric conditions within the room.

The subjects treated were all males between the ages of twenty-one and forty-nine years, and each having an average of five or six colds a year. They were kept in the room for a sufficient period to free them of all traces of the ailment and then a person suffering from a cold was brought in. The others were allowed to play cards with him, drink from the same glass, and do many other things to coax the cold germs into their own systems. At the end of the experimental period not one single case of cold had been transferred.

Two representatives of the University of California, B. F. Raber, professor of mechanical engineering, and Prof. H. B. Walker of the Branch of the College of Agriculture at Davis, were in attendance at the National Homes Conference at Purdue University, where they reviewed the elaborate plans of that university to experiment with a group of ten to twenty moderately priced homes to be constructed on a plot of land near the campus. Professor Raber also spoke at the meeting on the advances being made by air conditioning in California.

The man who has not anything to boast of but his illustrious ancestors is like a potato—the only good belonging to him is underground.—Sir Thomas Overbury.

ORIGINAL ARTICLES

THE MEDICINAL TREATMENT OF HEPATIC AND BILIARY DISORDERS*

By Thomas P. Sprunt, M. D.
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In the treatment of hepatic and biliary disorders by means of drugs, one may have several laudable desires, namely, to relieve pain, to relieve or avoid stasis by emptying out the bile reservoirs, to increase the bile flow for the purpose of cleansing the bile passages, and to disinfect or to inhibit bacterial growths within the bile tract. Obviously, varying degrees of success may be expected in these endeavors. In spite of the apparent apathy of most practitioners of medicine toward several of these aims, pharmacologists continue to study substances that may be so employed, and experimental physiologists and pathologists occasionally remind the clinicians that they may profit by the new discoveries more actively and efficiently.

Substances that have been used for their effect upon the liver and bile passages are legion. Foods as well as drugs are included in this category. The German literature of the past year contains many references to studies on plants, as cholagogues, and many of the plants so listed are used also as food. Indeed, under normal conditions, the effect of foods constitutes one of the important sources of stimulation of the physiological processes to be discussed. Von Bergmann classifies these substances under five different headings: (1) Cholekinetica, means used to set in motion the extrahepatic biliary mechanism; (2) choleretica, means used to affect the secretion of the liver; (3) antispasmodica, substances used to diminish the heightened tonus of the smooth musculature; (4) antineuralgica, for the relief of pain; and (5) antiphlogistica, to combat bacteria and inflammation. A glance at Table 1, modified from that of von Bergman, will give an idea of some of the materials offered for use.

Lauda remarks that a distinction between choleretics and cholekinetics is not a particularly practical one, since most choleretics are also cholekinetics and most cholekinetics are also choleretics. But the experimental work of the past decade seems to lend weight to the distinction. There is no doubt concerning the pharmacological value of some of these materials, to wit, bile salts as choleretics; oils, fats, peptone, and pituitrin as cholekinetics; belladonna and its derivatives as antispasmodics; and the opiates as analgesics. They are of proved potency and of sufficiently low toxicity. The stumbling-block is encountered in the clinical indications for their employment.

Permit me to quote two contrasting statements. In the recent tenth edition of the "Textbook of Pharmacology and Therapeutics" by Cushny, thoroughly revised by Edmunds and Gunn, it is

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* Guest-speaker paper. Read before the general meeting of the California Medical Association at the sixty-fourth annual session, Yosemite, May 13-16, 1935.

Table 1.—*Von Bergmann's Classification*

Choleretica	Cholekinetica	Antispasmodica	Antineuralgica	Antiphlogistica and Desinficientia
Bile	Vegetable oils	Belladonna	Opiates	Quinin comp. Choleval
Bile acids and salts	Fats, especially Egg yolk Cream	Atropin	Morphin Pantopon Dilaudid Codein	Urotropin Salicylic acid Pigments Mercurochrome Trypaflavin Argoflavin Flavicid
Dehydrocholic acid (decholin)	Peptone	Bellafolin		
Combinations with silver Bilival Choleval with urotropin Felamin	Pituitrin Pilocarpin? Saline laxatives Magnesium sulphate	Papaverin Barbiturates		
[Atophan various compounds Ikterosan Leukotropin]	Hydrochloric acid in relation to cholecystokinin			

remarked on page 114 that as cholagogues, bile acids are without rival, but that no condition is known in which an increase of the bile secretion is indicated. On the other hand, in a report of experimental work on the metabolism of bile cholesterol and bile salts, Whipple states that "possibly clinical treatment of abnormalities of the biliary system has not taken into consideration some of the facts established by experimental study of the bile. This may not be the place for a discussion of clinical problems, but it may be proper to indicate that certain cholagogues can be used with advantage in human cases with any irritation or inflammation of the biliary tree. Under these conditions, it is recognized that stasis of bile and high cholesterol concentration may favor the precipitation of cholesterol with subsequent building up of gall-stones. It is logical to assume that on occasions an active flushing of the biliary duct by means of some cholagogue might forestall the unfortunate precipitation of débris and cholesterol. Also bile salts, in addition to their active cholagogue effect, will appear in the bile and help to hold any excess of cholesterol in solution."

The use of these substances in diseases of the biliary system must be predicated upon a study of the physiology and of the pathology of the liver and bile tract, and the conception of the bile ducts and gall-bladder as a functional unit for controlling bile flow in harmony with the digestive processes of the alimentary canal.

PHYSIOLOGY

The liver, among its numerous functions, secretes or excretes bile that contains water, pigment, bile salts, cholesterin, fats and fatty acids, calcium and other inorganic substances. The secretion occurs at a pressure of about 30 centimeters of water, and at a rate of about 1,000 to 1,200 cubic centimeters per day. The bile ducts and gall-bladder contribute a small amount of mucus to the bile. The rate of bile secretion varies under different conditions, being especially active during periods of digestion.

The gall-bladder, capable of holding about 50 cubic centimeters, is, by reason of its absorptive and concentrative powers, an efficient reservoir that can care for all the bile usually secreted during the intervals between periods of active digestion. The concentrated bile, passing into the intestines at the beginning of intestinal digestion, aids in the digestive process; the bile salts absorbed into the blood stimulate the liver to increased activity, and an adequate amount of bile is assured for that period of digestion.

The mechanism by which this control of bile flow is brought about has been a subject of much controversy. Details are still uncertain, but important phases of it are now generally accepted. These have to do (1) with the absorption and secretion by the gall-bladder wall, and (2) the motor functions of the gall-bladder, ducts, and sphincter of Oddi in the ampulla.

The gall-bladder concentrates hepatic bile from four to ten times by the absorption chiefly of water and certain inorganic constituents. The bile pigments are concentrated to the greatest extent, the bile salts and cholesterin to a somewhat less degree. During the process of concentration the bile, which is alkaline as it leaves the liver, becomes slightly acidified.

No student has doubted that the gall-bladder is filled from the hepatic duct by passage of bile through the cystic duct, past the Heisterian valves. Quite a number have doubted, a few still doubt, that the gall-bladder empties by the same pathway. It seems quite definite, however, to most observers that this is the case. The view is based upon a variety of evidence, notably, direct observation of the gall-bladder and a combined study by means of cholecystography and duodenal drainage. It is now believed by most students also that the gall-bladder empties by the force of its own muscular contraction, and that in some way the time of this contraction under normal conditions coincides with the relaxation of the sphincter at the end of the common duct. Further, it seems probable at the present time that there may be a dual mechanism for the control of this process, a neural and a humoral one.

Studies on the innervation of the biliary tract have led to highly conflicting reports. Some of these discrepancies may be explained by the work of Westphal, who noted that a weak stimulus of the vagus nerve causes contraction of the gall-bladder and relaxation of the sphincter with evacuation of the gall-bladder contents. A strong stimulus causes spasm of the gall-bladder and of the sphincter, and evacuation does not result. It is believed that the vagus is predominantly motor and the splanchnic inhibitory for the gall-bladder, while the reverse relationship obtains for the sphincter. The idea of reciprocal innervation or the "law of contrary innervation," restated in 1917 by Meltzer, is widely held. It is well known that certain substances placed within the duodenum, namely, oils, fats, egg yolk, peptone, magnesium sulphate, result in an outpouring of gall-bladder bile into the duodenum. It is further recognized that the use of vagus stimulants hypodermically or intravenously, particularly pituitrin and pilocarpin, also result usually in evacuation of the gall-bladder.

The concept of a humoral mechanism is based upon the work of Ivy and his coworkers on the intravenous injection of extracts of the upper intestinal mucosa. They were able to concentrate the active principle cholecystokinin, so that three milligrams of solid substance intravenously was effective in emptying the gall-bladder. They demonstrated the humoral nature of this excitant by cross-circulation experiments in animals, and by blood transfusion experiments in man. Ivy summarizes the results by the statement that the only possible interpretation of the evidence at hand is that a hormone mechanism is concerned in gall-bladder contraction and evacuation, the hormone being closely related to, but not identical with secretin. It is thought that this substance is stimulated in the duodenum by the presence of hydrochloric acid. As Ivy states, the evidence would coincide better with other related physiological observations if it were shown unequivocally that digests of egg yolk and cream caused the hormone to be produced.

As already stated, the liver secretes at a pressure of about 30 centimeters of water. The gall-bladder, it is thought, can exert a similar pressure, while the sphincteric mechanism at the junction of the common duct with the duodenum is capable of withstanding a pressure of 75 centimeters of water. Questions relating to this sphincter are of considerable interest and importance. Is there a definite sphincter of Oddi? Are there two definite sphincters in the ampulla? Or is the control exercised merely by the contractions of the duodenal muscles surrounding the duct? The evidence apparently indicates the presence of a definite sphincter. At any rate, this choledochoduodenal mechanism is capable by its contraction of exerting a pressure quite sufficient to prevent the evacuation of the gall-bladder, and even to affect the ingredients and the flow of liver bile. The sphincter or intramural mechanism is necessary for the filling of the gall bladder.

The pressure relations within the ducts are, of course, important in relation to their pathology. This reminds us of another function of the gall-bladder as a pressure regulatory mechanism for the biliary passages. By its elasticity and distensibility, and its ability to concentrate hepatic bile rapidly and markedly, it is able to provide for the varying rate of bile formation, and for the possibility that bile may not be able to escape into the intestines.

PATHOLOGY

Under pathologic conditions disturbances occur in the formation of bile by the liver, in the absorptive and secretory functions of the gall-bladder, and in the mechanisms for emptying bile into the duodenum.

It is conceivable that defective formation of liver bile, as emphasized by Crile, may predispose to the formation of gall-stones as well as may the defective functioning of the gall-bladder. It is well known that with infection of the bile passages (cholangitis) and after the relief of obstruction of these passages the liver bile may be markedly changed with a particularly notable deficiency in the bile salts. The degree of alteration of the bile depends upon the extent and duration of the obstruction, the degree of associated infection and the presence or absence of a normally functioning gall-bladder. The changes are more marked in the presence of infection of the duct and in the absence of the gall-bladder when white bile will probably be found. More profound alterations occur in the bile with obstruction from stone and the associated cholangitis than in occlusion of the duct by pressure from without, as from a carcinoma of the head of the pancreas.

When the gall-bladder is damaged by trauma or infection, changes occur in the composition of the gall-bladder bile. There may be merely a retardation in the rate of absorption and concentration, but all types of perversion of function occur until, in the severely damaged gall-bladder, fluid flows into its lumen instead of being absorbed from it. Certain substances previously absorbed may be secreted into it, and materials that were formerly concentrated may now be absorbed. Such changes, of course, have to do with visualization in cholecystography, not only in reference to the nonfunctioning gall-bladder, but the hepatic bile may be actually diluted by the perverted function of a diseased viscus. The acutely inflamed gall-bladder mucosa does not concentrate, nor does the acutely inflamed gall-bladder evacuate, but both the concentration and evacuation may reappear after the inflammation in the gall-bladder has subsided.

There is a prevailing opinion that the bile salts hold the cholesterol and the fat in solution. Much has been said about the relationship of the bile salts to the cholesterol, but the reports are quite conflicting. Whipple suggests that the fault lies with the chemical methods used. Ravdin and his associates believe that stone formation is not due merely to a simple mechanism like the bile salts-cholesterol ratio, but to a much more complicated one.

As we have already noted, the evacuation of the gall-bladder, when stimulated, depends upon the tone of the sphincter mechanism of the bile duct within the walls of the duodenum. This sphincter can resist a pressure of 75 centimeters, whereas the maximal expulsive pressure of the normal gall-bladder is about 30 centimeters. It has been shown in human subjects that if the sphincter is spastic, biliary colic may be produced by exciting the gall-bladder to contract. Magnesium sulphate in the duodenum will relieve the pain, and dark bile will be obtained. This condition, which also occurs spontaneously, has been called *hypertonic dyskinesia* by Westphal, *spastic distention* by Newman, *spastic dysfunction* by Lyon, and *physiologic block* by Smithies. There is general agreement that this functional disturbance of the emptying mechanism is responsible for a fair proportion of clinical cases complaining of gall-bladder distress. Varied emphasis is placed upon it as a precursor of organic disease within the bile passages. Westphal considers it of the greatest importance in this connection, while Newman very much doubts the relationship. Such spastic phenomena may be the source of symptoms associated with some cases of organic disease of the gall-bladder and ducts, and may also be reflexly produced by other intra-abdominal lesions as, for example, appendicitis and peptic ulcer. Many papers have appeared on biliary dyskinesia, especially in the European literature. In Germany the names of Aschoff, Berg, and Westphal are particularly associated with it, and that of Newman in England, and Ivy, Lyon and others in this country. The German school attributes biliary dyskinesia to abnormal autonomic innervation. Newman and Lyon are inclined to emphasize the presence of constitutional factors that predispose to these disturbances.

PHARMACOLOGY

Pharmacological experiments have been made with many drugs and other substances that may affect the biliary mechanism. As stimulants to bile formation, bile acids and salts are much more effective than any other agents. Dehydrocholic acid or decholin occupies a most conspicuous position at present. It is less toxic than other bile salts, and Regan and Horrall secured an increase in bile flow, averaging about ten times the normal for two and a half hours. The bile began to flow faster within one minute after injection into the dogs. The length of time required for the flow to return to normal averaged about three and a half hours. The bile secretion pressure was also increased. According to their experiments, it causes an absolute increase, but a relative or percentage decrease in the total solids of the bile. Whipple reports that decholin will increase the bile flow with some increase in the bile salts output, but no change in cholesterol elimination. Tablets are prepared, in doses of three and three-quarter grains (0.25 grams), and also ampoules containing a 20 per cent solution, two grams in 10 cubic centimeters, for intravenous injection in man. It is said that diuresis sometimes occurs with this drug in cases of congestive heart failure. No important side effects have been reported to indicate that the drug is dangerous.

Of the ordinary foods, Whipple has shown that meats, including especially liver, kidneys and beef muscle, have a decidedly stimulating effect upon the output of bile salts in dogs.

Of factors facilitating the evacuation of the gall-bladder (cholekinetics), certain experiments indicate that psychic features have some effect here, as they do on the gastro-intestinal tract.

Experimental work with foods has usually been done by placing the substance tested in the duodenum. Fats and fatty acids are definitely the most active, and of these egg-yolk and cream occupy first place. Liquid petrolatum has no effect. Boyden states that one egg yolk will initiate evacuation of the gall-bladder, and that five egg yolks produced the best results.

Next to the fats come the proteins, especially meat, and finally the carbohydrates, which have apparently no effect. Carbohydrate seems to be the ideal rest nourishment for acute disturbances of the liver and bile passages, furnishing the protective glycogen to the liver and avoiding any stimulation either to the liver or to the motor mechanism of the bile tract.

Of the proteins, meat seems to have the most stimulating effect in evacuation of the gall-bladder, and peptone is quite effective. Egg-white and casein seem to have slight, if any, effect.

Reports of experiments with magnesium sulphate, the first material used by Lyon following Meltzer's suggestion, have been quite variable. The consensus of opinion is that magnesium sulphate is effective in causing evacuation of the gall-bladder in man, but it is not as effective as egg yolk, cream, or oil. Other saline laxatives, magnesium chlorid, sodium sulphate, etc., are somewhat less effective than magnesium sulphate.

In pharmacological experiments many drugs have been shown to have a definite effect upon the musculature of the gall-bladder. Among those causing contraction of the gall-bladder musculature are pilocarpin and cholin (whose action is antagonized by atropin), ergotamin, histamin, pituitrin, chloral hydrate, strophanthin. Atropin produces relaxation of the gall-bladder muscle. Nicotin, the nitrites, have a similar action. Houssay and Rubio, working with a special transplanted or viviperfused gall-bladder, studied a large number of drugs carefully, and concluded that sympathicomimetic drugs, especially epinephrin, relax the gall-bladder wall; veratrin and ephedrin are less effective. Parasympathicomimetic drugs—acetyl, cholin, and pilocarpin—cause contraction of this musculature, while atropin abolishes their effect. However, the demonstration of a definite effect upon the gall-bladder musculature does not establish the status of a drug as a cholekinetic material. Most of the drugs mentioned as having a contractile effect upon the gall-bladder musculature, when put to the test of favoring bile emptying into the duodenum, failed to fulfill their promise. This discrepancy is due in part, no doubt, to their simultaneous stimulating effect upon the sphincter mechanism in the wall of the duodenum. Only pituitrin has been shown definitely to promote the evacuation of gall-bladder bile, and this effect is less than that of egg yolk. Experiments with pilocarpin and with physostigmin give conflicting results, the difficulty being attributed to the increased tone brought about by these drugs in the musculature of the duodenal wall. Atropin has little or no effect in emptying the gall-bladder in most pharmacologic experiments, and the same applies to histamin and to epinephrin. Cholecystokinin is reported to be highly effective, but this material is not yet available for clinical trial.

THERAPY

The diagnosis of disorders of the biliary tract must be made from a very careful history, from the symptoms and signs, cholecystography, biliary drainage by means of the duodenal tube, and a study, of course, of the entire person of the patient, but particularly the closely associated structures like the liver and the stomach.

Accuracy of diagnosis is, of course, highly important for intelligent therapy, but you well know that our accuracy in details of this domain leaves much to be desired.

All of the milder cases and many of the severe ones remain in the physician's hands for treatment, but in such a borderline field the services of both physician and surgeon are desirable, and the patient should be seen by both as early in his disease as is practicable.

In the relief of biliary symptoms, and in the prevention of more serious disturbances, the conservative physician relies chiefly or entirely upon a careful dietetic and hygienic regimen, and in so doing he is wise; for such a plan must be the fundamental basis of treatment. There are times, however, when drugs may be of considerable value and we have perhaps been neglecting some of them.

Acute disorders of the liver and bile passages give little indication for the use of drugs, with the exception perhaps of sedatives and analgesics. Rest and protection are favored by a high carbohydrate and low protein and fat diet, with the avoidance of stimulating foods and drugs. In this connection we may think of foods and drugs together very frequently, for their action may be quite similar in certain instances, and indeed what is a food today may by concentration and extraction be a drug tomorrow.

In chronic diseases of the biliary system choleretics may come to play an important part, less so in disorders of the liver than in those of the bile ducts.

We may consider first the functional disorders of the bile tract, the so-called biliary dyskinesia, in which, presumably, there is no important disturbance of bile formation, but a difficulty in its evacuation into the duodenum. With a spastic sphincter and a spastic gall-bladder such as obtain in the best recognized type of dyskinesia, the indications are for the use of foods relaxing the sphincter and promoting evacuation, and the exhibition of drugs of the antispasmodic type. Newman reports striking success from a diet with frequent feeding, four or five meals a day, with a rather high fat and low carbohydrate materials. He uses belladonna or atropin in full physiological doses. It seems possible that many of us have treated such cases successfully without detailed attention to the biliary tract, for we see many functional nervous disorders with vagotonic features, including those of the gastro-intestinal tract. While the symptoms in some cases of biliary dyskinesia may point very definitely toward the biliary tract, others are associated merely with more general symptoms of gaseous indigestion and spastic constipation.

Of the organic diseases of the biliary tract, cases of cholecystitis and cholangitis without stones would appear to be ideal ones for the use of the flushing effect of decholin in full doses. A markedly increased flow of dilute bile containing some increase in the bile salts, but no increase in the cholesterin, would seem to offer a rational promise of betterment in such cases. Decholin may be administered by mouth in doses of four to six to eight tablets a day, or may be given intravenously, two grams once a day for three days in succession. The diet may be arranged at the same time to encourage a regular emptying of the gall-bladder, and this may be further encouraged by the use of small doses of magnesium sulphate once or twice a day. European writers indicate a unanimous approval of the spa treatment for such cases, and in this treatment the saline waters play a definite part.

In the ordinary case of cholecystitis with stones, with mild and recurring symptoms, many of these symptoms may be due to an associated cholangitis or to reflex motor disturbances in the bile tract. Such cases may be improved by treatment of the cholangitis by choleretics, and by the soothing effect of antispasmodic drugs. In the use of strong cholagogues, Lauda emphasizes the possible danger of the mobilization and impaction of stones in the common duct. He feels that the usual medicaments placed in the duodenum are not sufficiently strong to be considered dangerous in this connection, and that one may also proceed cautiously with small doses of decholin, gradually increasing.

Medical measures may be quite helpful in the preoperative preparation, and in the postoperative care of patients submitted to surgery. We have already noted the fact that after the relief of complete or almost complete obstruction, the liver bile is greatly changed and is particularly deficient in bile salts. The patient may already have been deprived of bile salts for some time. Ravdin and other surgeons administer to such patients the drainage bile through a duodenal tube. They might well give bile salts in addition. Another possible factor in such cases is a delay in recovery, owing to partial obstruction of the smaller intrahepatic channels by inspissated bile and débris. Thorlakson and McMillan have recently studied such cases after common-duct operations with the injection of iodized oil through a T tube in the common duct, followed by an x-ray of the entire biliary tract. They describe and picture very well the marked cholangiectasis involving the larger ducts and the absence of filling of the smaller channels with marked improvement following repeated irrigations with warm salt solution. Here again the flushing of these channels with a dilute bile should be helpful.

A similar situation may follow primary acute liver injuries, and when given at the proper time during convalescence, decholin has been shown to be of great assistance in speeding the recovery. In both types of liver injuries, the primary form and that following duct obstruction, there must come an optimal time also when a change from the protective carbohydrate diet to the stimulating meat diet should be definitely useful. Certainly the change should not be made while the usual liver function tests remain positive nor until the van den Bergh reaction approaches the normal level.

The condition of pregnancy bears the reputation of being a predisposing factor in the development of gall-stones. The question arises, what may be done here in the way of prophylaxis? Apparently this possibly important and practical problem has not received the attention that it deserves. It is known that mild disturbances of liver function occur not infrequently in the latter half of pregnancy. Westphal believes that the tone of the sphincter of Oddi is increased in pregnancy. Other observers report that the gall-bladder of the pregnant woman contracts earlier and more quickly after a subcutaneous injection of pituitrin than that of the nonpregnant woman. There are reports of normal gall-bladder evacuation in pregnant women, and other reports emphasizing the difficulty of obtaining normal shadows attributing most of the variations from normal to technical roentgenologic difficulties. Ivy and Bergh state that the prevention of gall-bladder disease may be aided by the daily evacuation of the viscus by the appropriate intake of fat, particularly the gall-bladder that empties slowly and incompletely but without symptoms. Such prophylaxis should be a part of antipartum care. Erhart treated with decholin several pregnant women with gall-bladder attacks. He thought that the attacks were brought out or increased by the pregnancy. The decholin was given in 10 cubic centimeter doses of a 20 per cent solution intravenously, three or four doses on successive days. He considered that the attacks were shortened and that the drug was useful. It did not in any way interfere with the pregnancy, and in one case he felt that sudden interruption of the pregnancy was avoided.

In the attempt to disinfect the biliary passages we encounter the difficulties inherent in all attempts at internal antisepsis. A drug that is even mildly effective may be entirely too toxic, especially for an injured organ. The German clinicians make use of combinations of bile salts with silver, like cholevaI. Lauda, in Vienna, has found trypaflavin the most potent agent, but recognizes its dangerous toxicity. Hurst, in England, employs large doses of methenamin (urotropin), giving similar doses of sodium bicarbonate at the same time to protect the kidneys. While the hepatic bile is alkaline, that of the gall-bladder is slightly acid and formalin is liberated there, but it is quite doubtful if its concentration is sufficient for the purpose. Takahashi, in a recent report, compares the effectiveness of mercurochrome, trypaflavin and flavicid on Bacillus coli and staphylococcus in experimental work on rabbits. He states that flavicid is excreted from the liver in greater concentration than the others, and inhibits markedly the multiplication of the bacteria mentioned in three hours. He suggests the employment of flavicid clinically in cases of infection of the bile ducts.

In summary, we may conclude that the admirable work of many investigators of the biliary system during the past decade furnishes the clinician with data for a greatly improved dietotherapy. The data for pharmacotherapy are not as rich, but there is evidence that we may supplement the dietetic hygienic regimen in many cases by the use of choleretics and of antispasmodics.

1035 North Calvert Street.

ANISEIKONIA[*][†]

By K. C. BRANDENBURG, M.D.
Long Beach

DISCUSSION *by Julian N. Dow, M. D., Los Angeles; Otto Barkan, M. D., San Francisco; George N. Hosford, San Francisco.*

THOUGHTFUL ophthalmologists have long suspected that the conventional type of refraction does not reveal all of the defects which interfere with comfortable vision. The prevailing tendency is to attribute asthenopic symptoms, which persist after careful testing has brought the monocular visual acuity to its highest point, to extra-ocular muscle imbalance, or to difficulties in the patient's adjustment to his environment resulting in ocular neurosis. While this diagnosis is probably satisfactory in some cases, there remain a number of problems not so easily solved.

OCULAR NEUROSIS PROBLEMS

We have, for instance, the patient without gross heterophoria who is definitely less comfortable with his refractive error carefully corrected than with the poorer vision achieved by discarding his glasses. Most of you have shared my misgivings on having a disgruntled patient come from some colleague who does careful work, with the complaint that the glasses cannot be worn after a fair trial. The patient's faith in the benefits of science is somewhat shaken when, after a second examination, he is told that his glasses are all right; or when, worse yet, a minor change is made in the prescription leaving the condition unimproved.

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[*] Read before the Eye, Ear, Nose, and Throat Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1934.

[†] This paper, which you have been kind enough to allow me to present to you today, represents my impressions of this intensely interesting work on Aniseikonia, after a month's visit in the Department of Research in Physiological Optics in Dartmouth Medical School at Hanover, New Hampshire.

The entire credit for it must be given to Professor Ames and his group of collaborators, including Doctor Bielschowsky, through whose help and courtesy I am enabled to render you this report.—K. C. B.

There is also that most embarrassing of all situations, the patient with definite asthenopia, sometimes of an incapacitating nature, who presents, on careful examination, no refractive error or extra-ocular muscle imbalance, and yet knows definitely that his symptoms are aggravated by use of his eyes and relieved by rest.

What one of us has any idea, after we have painstakingly brought the patient's visual acuity to its highest point and find no gross extra-ocular muscle imbalance, whether the patient will really be more comfortable with his glasses, or whether he will become another dissatisfied drifter, going from refractionist to refractionist, never receiving relief?

We are also faced by the painful fact that in our attempts to develop fusion as a part of the management of strabismus, the best results—which are none too good when checked immediately after more or less prolonged fusion training—are even less encouraging after the training has been discontinued for a period of time. Many patients revert to their previous status.

To those of you, who have given thought to this situation, the news that an additional defect of binocular vision has been discovered which can be measured and corrected, will be welcomed with interest.

BIELSCHOWSKY'S OPINION

Considerable skepticism always greets a deviation from well-beaten paths; and that you may not be misled by my enthusiasm, I will quote the recently published comment by an outstanding European ophthalmologist, Professor Bielschowsky of Breslau, who has spent a number of months at Dartmouth Medical School with Professor Ames and his associates, who are the pioneers in this new development. Says he: "The Department of Research in Physiological Optics at Dartmouth has discovered that the retinal images of an object very frequently are of a different size and shape in the two eyes.[1] This fact, hitherto unknown, is of great importance, from not only the physiological but the clinical point of view. It has been ascertained that eyestrain, headache and other troubles, in many cases are caused by differences in the size and shape of the retinal images, and can be relieved or at least mitigated by glasses correcting that difference.[2] To what extent this defect is responsible for other ocular disturbances, the origin of which is obscure, is a problem to which the Research Department is devoting itself at present."

AUTHOR'S OBSERVATIONS AT DARTMOUTH

It has been my privilege to meet and question patients at the Dartmouth Clinic recently, who were wearing iseikonic corrections. Many of them had suffered from eye symptoms incapacitating them wholly or partly for many years. Others had been unable to get glasses which rendered comfortable and prolonged use of the eyes possible. I was greatly impressed with the relief which many of them claimed. One cannot help feeling that when the details of this new technique become perfected and its benefits made more generally available, it will be of inestimable value in many cases where the origin and management of the disability has hitherto baffled us.

About one thousand patients are now wearing the new iseikonic lenses which correct differences in the size and shape of the retinal images. Some of the data on this work was published three years ago.[3] More has been reported and will soon be in the literature.

REPORT OF CASE

Without repeating what has already been published on this subject, I would like to call your attention to a case which illustrates the significance of this work in connection with the problem of strabismus.

This patient was presented by Doctor Bielschowsky before the New England Ophthalmological Society in January of this year at Boston, and the New York Academy of Medicine a month later. He illustrates the fundamental rôle played by aniseikonia in horror fusionis, which may be defined in simple terms as a condition in which the sensory-motor apparatus refuses to bring the visual axes into alignment upon a common point of fixation because of some defect which renders fusion difficult or impossible.

Case 1.—The patient, a South American architect, age twenty-five, gave a history of a convergent strabismus at the age of seven, following the occlusion of one eye for a week after an injury to the head. Two years later he was given glasses and four years after, in 1922, both eyes were operated on. During the following eleven years the right eye was said to have been blind, although the patient was in excellent health, studying hard, and participating in many sports.

In November, 1933, the patient suddenly noticed diplopia, which was accompanied by severe frontal and occipital headaches and pains in the neck, as well as dizziness and attacks of bilateral blindness lasting from ten to fifteen minutes. He was no longer able to work, suffered from insomnia, and lost thirty-two pounds.

In April, 1934, he came to New York, where careful and repeated general and neurologic examinations revealed no pathology. Wassermann tests on the blood and spinal fluid were negative. Because of the diplopia the patient was subjected to further operative procedures, involving the right superior oblique and right internal and external recti muscles, which resulted in an approximate alignment of the visual axes. The diplopia persisted, however, and the patient was then referred to another excellent ophthalmologist for fusion training, which proved of no avail. At the iseikonic clinic in New York, it was found impossible to obtain accurate measurements because of the diplopia.

The patient was then referred to the Department of Research in Physiological Optics at Dartmouth Medical School, where an exhaustive preliminary examination was made by Doctor Bielschowsky, whose findings in brief were that the patient had good visual acuity in both eyes, which were almost parallel, but that fusion could not be produced by any means. There was a paresis, either congenital or postoperative, of a number of the extra-ocular muscles together, with spasms of the different groups of muscles causing the lateral, vertical, and torsional components of an anomalous position of the eyes. These spasms produced intermittent and inconsistent variations in the alignment of the visual axes in the different fields of binocular fixation. The double images could be made to touch, or partly overlap, by means of prisms or the haploscope; but numerous and varied attempts to produce fusion failed. Because the patient had squinted from childhood and diplopia had arisen only after the angle of squint had been considerably reduced, this seemed to be a typical case of horror fusionis.

Doctor Bielschowsky admitted that he could suggest nothing but a + 8.00 sphere before the left eye to blur the vision, and a 12-degree prism base in before the right eye to separate the double images. This relieved the diplopia, but not the headaches.

The case was then turned over to Professor Ames and his associates who, after several weeks of persistent effort, involving a study of the effect of various size lenses on the anomalous tilting of the head, finally succeeded in fitting the patient with a major size correction which gave him, for the first time in his life, comfortable binocular vision with depth perception. This correction completely eliminated the habitual head tilting, and gave him a certain amount of fusion amplitude, which increased after the glasses had been worn for a period. After four months he reports that he still has complete relief. When the glasses are removed, however, the diplopia and other symptoms recur, and one can observe the same inconsistent and irregular spasms of the eyes preventing alignment of the visual axes which Doctor Bielschowsky demonstrated when he presented the patient at the two meetings previously mentioned.

COMMENTS ON THE CASE

In commenting on the significance of this case, Doctor Bielschowsky states that henceforth, in every case of weak or defective fusion, we shall be forced to look for aniseikonia as a possible cause of the condition. Aniseikonia seems to be an important etiological factor, not only because it may cause an inferiority of the retinal images and the visual acuity in one eye, but because it may produce a disturbance of the normal fusion innervation of the eyes in an effort to prevent the superposition of incompatible retinal images.

What is the importance of this case in an understanding of the problem of strabismus?

THE FUSION PROBLEM IN NONPARALYTIC STRABISMUS

The inadequate development of fusion is the one outstanding characteristic shared in common by all types of nonparalytic strabismus. If adequate fusion is present, large differences in the refractive condition of the two eyes and the effort necessary to overcome large heterophorias or tropias may give rise to no symptoms, as we have frequently observed.

When fusion is difficult or impossible, due to aniseikonia or any other similarly interfering factor, the patient may seek adaptation by one of several means.

First: He may, in order to avoid diplopia or discomfort and confusion, develop the central scotoma in one macular region which we know as an amblyopia ex anopsia, as well as the anomalous retinal correspondence which we sometimes erroneously term a false macula.

Second: Reflex innervation of the extra-ocular muscles, in an attempt to avoid those same difficulties, may result in an habitual deviation of the visual axes from parallelism, as we observe in all nonparetic strabismus.

Third: By a modification of the first two methods, the patient may fix with either eye, while the other eye deviates and displays that transitory functional amblyopia called suppression. This is the condition observed in cases of alternating strabismus.

Many of the hitherto obscure and puzzling functional anomalies of the innervation of the extra-ocular muscles may be readily understood as being a physiological attempt at adaptation to a situation in which fusion is impossible or accomplished only at the expense of comfort. The expectation that these conditions will subside when equalization of the size and shape of the images makes fusion possible, seems to be borne out as the work on aniseikonia progresses.

A NEW CLINICAL CLASSIFICATION FOR THE MANAGEMENT OF STRABISMUS

If you will grant me the perilous prerogative of prophecy, I will venture to outline a new clinical classification for the management of strabismus:

In the first group are those cases with an irremediable anomalous retinal correspondence, which may be improved cosmetically by surgery if the amblyopia in one eye is sufficient to eliminate the risk of annoying diplopia.

In the second group we may place those cases with a normal retinal correspondence and sufficient visual acuity in both eyes, in which it may be possible, by means of surgical alignment of the visual axes, rendering the determination and correction of aniseikonia practical, to restore normal fusion with depth perception, thus attaining a perfect result.

In the third group will be cases without aniseikonia or an anomalous retinal correspondence where alignment of the visual axes, by surgery alone, results in fusion with depth perception. These cases might equally well respond to fusion-training with some such device as the haploscope, but where a gross heterophoria or tropia exists, the adjustment of the extra-ocular muscle balance, if it can be done judiciously and without interfering with the function of convergence, may be simpler and easier. This group should benefit by fusion-training following operation, although if no aniseikonia or similarly acting defect exists there is reason to believe that fusion with depth perception will develop spontaneously.

In the fourth group are those cases in which the correction of aniseikonia alone enabling adequate fusion to develop will suffice to maintain parallelism of the visual axes. Horror fusionis, and alternating strabismus with a small angle of deviation, may fall under this classification.

ANISEIKONIA AN IMPORTANT DISCOVERY

From the foregoing I believe you will agree with me that the discovery of aniseikonia gives us a key with which we may open the door to a better understanding of the management of nonparalytic strabismus.

Less interesting perhaps from the standpoint of the ophthalmologist, but more important to the numerous patients suffering from the less spectacular but frequently incapacitating symptoms of aniseikonia, in its minor degrees, are the refraction problems to which I called your attention at the beginning of this paper. I will not take your time repeating what can be learned from the literature already available, and soon to appear. A few general facts will suffice. It is estimated, on the basis of the data available, that about 20 per cent of all patients fitted with glasses could be further benefited by the correction of aniseikonia. This same data shows that about three out of four patients get either complete or partial relief from their symptoms, the most outstanding of which appear to be headache, photophobia, and suppression.

Aniseikonia may be present in the absence of other refractive error, or it may be produced by an anisometropic correction in which, plus power, tends to increase the size of the retinal image, and minus power to decrease it. Flat prisms used in an attempt to remedy heterophorias may produce aniseikonia, occasioning greater trouble than the heterophoria itself. The difference in the images is quite frequently independent of the dioptric correction and may even be opposite to that produced by the correction of anisometropia.

It is my impression that fusion amplitude, apparently dependent upon size amplitude, may prove to be a more important index of the probability of comfortable and adequate vision than the measurement of phorias upon which we have sought to render judgment in the past.

IN CONCLUSION

There is every indication that the discovery of aniseikonia marks a new era in the history of the alleviation of human suffering by scientific means. It will be well to acquaint ourselves with this new development, which is just in its infancy, and follow it with the interest it deserves lest we be left behind in the march of progress. Its implications, which are only now becoming apparent, must be revealed by further extensive clinical application and carefully-controlled research in which we, as ophthalmologists, should hasten to bear our part. Only a thorough knowledge of the unsolved problems which face us, and a willingness to inquire honestly concerning our failures, will prevent us from being laggard in the duty of offering to our patients the best that science has made available.

110 Pine Avenue.

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DISCUSSION

Julian N. Dow, M. D. (727 West Seventh Street, Los Angeles, California).—First, I take the liberty of reviewing a few facts regarding the differences of retinal images:

The average size difference in normal persons, free of symptoms, has been found to be 0.53 of 1 per cent. The average size difference in patients with symptoms has been found to be 1.53 per cent. Professor Ames has stated that the relative size and shape of the retinal images are subject to change, but it is not known what the physiological functions are which produce those changes. The wearing of a refractive correction produces a change in size of the image, a plus lens increasing and a minus lens decreasing. Again the amount varies with the base curve and the location of the lens. A plus one biconvex sphere in the trial case causes a difference in size of 2.3 per cent, and the same correction ground on a six base curve causes a difference of 3.3 per cent.

To measure aniseikonia, a special instrument to measure the ametropia as well as the aniseikonia has been designed.

The time necessary for completion of the examination is from one to four hours; the cost of the instrument and the cost of the correcting lens quite expensive. The correction is then worn in a majority of cases in the form of fit-overs and must be tried for a few days; then, perhaps, changes made, and tried again.

It has been estimated that 30 per cent of the wearers of glasses have aniseikonia, and that 80 per cent can be offered relief, but I cannot help but feel that these figures are very high, both as to the presence of the size difference and as to the relief that can be afforded.

A procedure that requires as complicated an instrument, and as intelligent and coöperative a patient, and that deals with as sensitive a subject as size differences of retinal images, must have in those cases of smaller percentages much greater percentages of error, and naturally a smaller amount of relief afforded.

From a practical standpoint, those of us practicing clinical ophthalmology could only expect coöperation from the patient whose suffering has been severe and whose patience very great; for undoubtedly, many changes would have to be made before his permanent correction could be found.

Then, as each change in the ametropic correction would be made from year to year, further exhaustive tests would have to be made to determine the amount of aniseikonia.

Surely this cannot be accomplished in the average office or clinic, unless some procedure less complicated than that employed at present is found.

Professor Ames and his coworkers, practicing as researchers, are accomplishing great results and, as Doctor Brandenburg has stated, will produce many changes in our refractive procedure and in our attitude to many phases of fusion; but I do not feel that, at the present time, we, as clinical ophthalmologists, can include thorough testing for aniseikonia in our refractive work.

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Otto Barkan, M. D. (490 Post Street, San Francisco).—I think it is much to Doctor Brandenburg's credit that he has been able to give to this section such a remarkably clear and simple picture of aniseikonia. I would like to elaborate on a few of the points Doctor Brandenburg has brought out, such as the changing of lateral phorias of as high as five prism degrees, and hyperphorias of one-half to one and one-half degrees to normal.

The lenses used to correct large differences of refractive errors in the two eyes create induced size differences. Thus, for instance, a + 3.00 + 1.75 × 180 on the right eye and an + 0.50 + 0.50 × 180 on the left eye theoretically induce approximately 6.22 per cent over all, and an addition of about 3.52 per cent in the ninetieth meridian in the right eye due to an extra magnification of the stronger lens. The patient who has size amplitude, which is analogous to fusional amplitude, would be perfectly comfortable with this correction because he could compensate for the induced size. Another patient who is sensitive to size changes, or in using the fusion sense as a comparison, having weak fusion powers, low ductions, etc., would not be able to compensate for induced size and, consequently, would not be relieved of his asthenopic symptoms by the correction; the symptoms would, indeed, be increased in severity by the induced aniseikonia. In regard to the Velez case, it is important to note the increases in fusional amplitude while wearing the iseikonic correction. After wearing the iseikonic lenses for three days, it required but one prism degree to break fusion in abduction, two degree prism to break it in adduction. After two months it required approximately six degrees to break abduction, and ten degrees to break adduction. The vertical ductions had similarly increased. Doctor Bielschowsky has presented conclusive proof that this patient's remarkable relief of symptoms, double vision, etc., was not due to suggestion or psychotherapy.

Through the work of Doctor Ames and his group we are now in possession of a new factor in the primary causation of strabismus. Aniseikonia makes it impossible to maintain comfortable binocular vision. The eyes deviate from parallelism in the sense of a flight strabismus, suspension taking place and amblyopia ex anopsia following in the deviated eye.

There is another phase of this remarkable work which is being done by Doctor Ames and his group at Dartmouth, namely, that phase of the work which is in relation to cyclophoria. Cases of cyclophoria have up to the present often been missed or ignored. Past attempts to relieve by changing the axis of the cylinder or by reducing its amount, orthoptic training and surgery on the oblique muscles, have been more or less unsatisfactory.

The present eikonometer measures only aniseikonia at axis, 90 or 180 or over-all aniseikonia. In order to test for off-axis or meridional aniseikonia, Doctor Ames has perfected an instrument which he calls the tipping field, or tilting or flying field. It consists of two stippled ground glass plates giving an impression of depth. For the far tests, the plates are in the horizontal position; for the near tests, in the vertical. The subject is required to adjust them in what appears to be to him the perfect horizontal or vertical plane. From the position of the plates, declination or conclination can be diagnosed, vertical tilt designating the declination and horizontal the conclination. Tilting forward denotes the presence of incyclophoria, tilting backwards the presence of excyclophoria. By means of a scale these can be measured to a degree. By this means the off-axis of an aniseikonia can be measured and corrected. Doctor Ames and his coworkers found that cyclophoria produced such a tipping field abnormality; that it can be measured and be corrected by proper iseikonic lenses. Cyclophoria is corrected, or strain relieved when aniseikonia is present, by equalizing the image sizes in the proper meridian; or in the absence of aniseikonia an artificial aniseikonia is induced by iseikonic lenses with resultant reflex cyclophoria in the opposite direction of that present.

Many cases of hitherto uncorrectable fatigue for near work, poor depth perception (aviators making poor landings), photophobias of unknown origin and many so-called neurasthenic patients have been completely relieved by correcting the apparent cyclophoria in this way.

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George N. Hosford, M. D. (490 Post Street, San Francisco).—I am sure we all owe Doctor Brandenburg a debt of thanks for bringing to us a first-hand account of this new development in physiologic optics. I have but little patience with the criticisms leveled at this amazing piece of work, particularly when they emanate from those who have not studied it. The discoveries of Dr. Frank W. Weymouth and his collaborators on retinal grain may prove to be the anatomic basis on which it rests. It may well be the unknown factor in both the etiology and treatment of strabismus for which investigators have been looking in vain for so many years.

We should have predicted some such development to account for some of the unexplained phenomena in ophthalmology, just as astronomers have predicted the presence of a new planet from mathematical calculations made before the planet was ever seen through the telescope. The discovery of aniseikonia, and of a method of correcting it with lenses, may well give us another means of dealing with squint, which may be even more important than anything yet applied to the problem.

MODERN TRENDS IN ANESTHESIA*

By Ralph M. Tovell, M.D.

Rochester, Minnesota

ALMOST a century has elapsed since the discovery of anesthetic agents and their application in clinical practice. Prior to this time the successful surgeon was usually a young man of iron nerve, who was capable of undertaking rapid but merciless operative procedures. Anesthesia opened wide vistas for successful surgical research and achievement. The surgeon no longer has to be young, daring, and ruthless; he still must have nimble and dextrous hands, but the guiding brain may be a mature one, which is influenced by a wealth of experience. Anesthesia has made possible, in great degree, the remarkable development in surgery. Patients have come to expect relief of pain during surgical procedures, and they are becoming more and more insistent that pain be relieved in medical and obstetric practice as well.

ANESTHETIC AGENTS IN OBSTETRICS

Chloroform.—Chloroform has retained, in many localities, its popularity as an anesthetic agent that is capable of relieving, to a great extent, the pain that is encountered in the process of childbirth. This drug has been favored over ether because of its greater power to produce analgesia. The present trend is to eliminate the use of both these agents during labor. Patients are demanding, and obstetricians are putting greater stress on, the relief of pain that is encountered early in labor. It has become quite a general custom to administer a derivative of barbituric acid in repeated small doses by mouth, for example, pentobarbital sodium, three grains (0.20 gram) when dilatation of the cervix has reached two centimeters. This dose may be repeated as it seems advisable. Care must be exercised in order to avoid the occurrence of undue restlessness. The total dose of the barbiturate may be kept minimal if morphin is administered in conjunction with it. Morphin, grain one-sixth, is frequently found beneficial, but its administration must be limited to the early hours of labor;[7] otherwise the baby may be cyanotic and apneic at birth.

Barbiturates.—The barbiturates find their most effective application when they are administered intravenously to patients exhibiting convulsive seizures of eclampsia. The convulsions may be controlled; the patient is provided with an interval of rest, during which therapeutic measures may be undertaken or, if it is deemed wise, operative delivery may be accomplished.

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* From the Section on Anesthesia, The Mayo Clinic, Rochester, Minnesota.

Read before the Anesthesiology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1935.

Colonic Anesthesia.—Oil-ether (colonic) anesthesia has been given thorough clinical trial since its introduction by Gwathmey and his associates [2] in 1923. Many patients have a high regard for this method of relieving pain, and many obstetricians favor its use. The method is probably best reserved for primiparas, or for multiparas who experience difficult and prolonged labor. The rectal administration of tribromethyl alcohol (avertin) has been advocated for the same type of patient, but general use of this drug has not become an established and well-recognized practice.

Gaseous Anesthetics.—For the pain of the late first stage and in the second stage of delivery, administration of gaseous anesthetics is desirable. Nitrous oxid and ethylene are useful and valuable, but, because of the problem of portability of the apparatus that is required, administration of these gases is, to a great extent, limited to patients who are delivered in a hospital. The new gas, cyclopropane, offers advantages [1] over nitrous oxid and ethylene. It is capable of producing more satisfactory analgesia than nitrous oxid and ethylene, and the concentration of oxygen in the mixture is so high that there should never be any excuse for the presence of cyanosis. It possesses the same disadvantages of excessive cost as do nitrous oxid and ethylene, and the apparatus required for its administration is not readily portable. Administration of this gas to a patient who is undergoing cesarean section is well worth while. Adequate relaxation may be obtained without the production of cyanosis and without the use of ether. The baby cries shortly after delivery, the uterus maintains adequate tone, and hemorrhage is not likely to be excessive.

ANESTHETIC AGENTS IN INTERNAL MEDICINE

Barbiturates.—The barbiturates have a definite place in the treatment of convulsions that are caused by eclampsia, tetanus, meningitis, or strychnin poisoning.[5] From 5 to 15 grains (0.3 to 1 gram) of sodium amytal, administered intravenously, will control convulsions, conserve the strength of the patient, and provide the clinician with an interval in which to administer other treatment. Patients who are suffering from toxic psychosis may be controlled in the same way. Satisfactory sedation can be maintained by repeated administration of the drug rectally. The dose that is required is smaller than that which is administered in the initial intravenous injection, and since the patient's tolerance is known, rectal administration is safe. The rectal method of administration may be employed in cases in which it is feasible, or the solution can be deposited in the stomach through a Rehfuss tube that is introduced through the nose. If it is necessary to maintain sedation for several days, considerable fever may develop as the result of the disease and from the effect of the barbiturate. Constant observation for the appearance of pulmonary edema must be maintained. With these untoward symptoms in evidence, the barbiturate may be temporarily discontinued and tribromethyl alcohol (avertin) may be administered instead. By raising the foot of the bed and by administering oxygen by means of a nasal catheter, the pulmonary edema may be controlled. Hiccough has been controlled by the oral administration of either sodium amytal or pentobarbital sodium (nembutal), supplemented by intermittent inhalations of carbon dioxid, 10 per cent, and of oxygen, 90 per cent. Patients who have syphilis and suffer from gastric crisis sometimes gain relief following the intravenous administration of a barbiturate. The injection should be made slowly, because these patients frequently exhibit respiratory depression and cyanosis, following the administration of as small a dose as 5 grains (0.3 gram) of sodium amytal. An individual who has delirium tremens may be given a barbiturate intravenously in order to produce a period of rest. It is advisable to give 3 milligrams of ephedrin with each cubic centimeter of solution containing 1½ grains (0.097 gram) of sodium amytal. The amytal tends to lower the blood pressure and the ephedrin tends to offset this action. The anesthetist, who is experienced and familiar with methods of administration of the barbiturates and other drugs that are capable of producing sedation, should make an excellent consultant in these troublesome cases.

The anesthetist may be of assistance to the clinician in making a diagnosis in certain types of cases. A patient may consult a physician because of pain in the region of the lower part of the face, lower jaw, and neck. The clinician is likely to find that the pain is atypical in type, and that it does not correspond to any pain that is produced by involvement of the fifth cranial nerve. This type of pain may be sympathetic in origin. In order to decide this point, the anesthetist may be called on to block the sympathetic trunk with procain, as it passes down over the anterolateral aspect of the eighth cervical, and first and second dorsal vertebrae. The anesthetist may be certain he has successfully blocked the sympathetic trunk if a Horner's syndrome is obtained on that side. If the pain is abolished by this procedure, a cervicodorsal sympathectomy may be considered. This same method of injection may be employed in cases of Raynaud's disease in which there is some doubt whether the desired dilatation in the peripheral vessels of the fingers may be obtained by cervicodorsal sympathectomy. A bilateral block of the sympathetic trunks in the region of the eighth cervical, and the first and second dorsal vertebrae, will produce a maximal rise in temperature of the fingers to 34 or 35 degrees centigrade, provided there is little pathologic change in the peripheral vessels. Failure to obtain this rise in temperature of the fingers in cases in which a Horner's syndrome has been produced indicates the presence of peripheral vascular change which cannot be completely overcome by cervicodorsal sympathectomy. Under these circumstances, complete relief of symptoms that are referable to the hand cannot be produced by operation. Spinal anesthesia may be induced if the same question arises regarding the advisability of undertaking a lumbar sympathectomy for relief of symptoms referable to the feet. By inducing spinal anesthesia in a case in which the patient is suffering from hypertension, one may gain an impression of the extent one may reduce that pressure by dividing the anterior spinal roots that emerge from the sixth dorsal to the second lumbar vertebrae, inclusive. Again, it may be possible for the anesthetist to relieve the pain of a patient suffering from angina pectoris by blocking, paravertebrally, with one per cent solution of procain, the upper five dorsal nerves on the left side. If the pain is relieved by this procedure, 5 cubic centimeters of 95 per cent alcohol may be injected in the region of each nerve to give relief from pain for six to ten months. Pain in old scars in the upper part of the abdomen may be relieved by blocking the involved nerve or nerves in the intercostal groove, with procain. Once the offending nerve is located, alcohol may be injected, or a surgeon may be called to resect it. These are a few of the many cases in which the anesthetist and the clinician may coöperate, to the advantage of the patient.

ANESTHESIA FOR SURGICAL PROCEDURES

The development in the art and science of anesthesia has reached the stage where the surgeon can expect, and can reasonably demand, a great deal of the anesthetist. He may expect the anesthetist to know the pharmacologic action of many sedative and anesthetic drugs. He may expect him to be familiar with the methods of their administration. In addition, the anesthetist should be prepared to evaluate the operative risk in relation to the operation and several methods of producing anesthesia which might be used. The surgeon may expect advice regarding the anesthetic agents and methods of administration which are likely to produce the best operative conditions, and at the same time assure the patient the best chance for recovery. The anesthetic and method of its administration having been decided on, the anesthetist should know the proper preliminary medication to prescribe. During these investigations the anesthetist should instill in the patient a confident outlook. Regional anesthesia should be instituted without undue pain, and general anesthesia should be induced pleasantly and rapidly. Irrespective of the site of operation, the anesthetist should be able to maintain anesthesia satisfactorily with the patient in optimal position for the surgeon, and in special instances he should be prepared to provide positive pressure during thoracotomy or quiet breathing for difficult operations which involve structures in the upper part of the abdomen. The surgeon should be able to depend on his anesthetist's evaluation of the patient's condition throughout the operation. The anesthetist should know the accepted methods for preventing, delaying or treating untoward reaction, whether it be surgical shock, respiratory arrest, or circulatory depression. In some surgical organizations, it is the anesthetist's responsibility to administer saline, dextrose, or acacia intravenously, and to administer blood transfusions. In any case, the anesthetist should be in a position to institute remedial measures promptly. The anesthetist should visit the patient in the immediate postoperative period and should be prepared to institute intravenous medication or oxygen therapy, and to maintain proper sedation. Thus, the modern anesthetist can aid the surgeon in many ways.

The present trend in anesthesia is toward careful selection of the proper anesthetic agent or combination of agents and, after that selection has been made, toward securing optimal results from their administration. The trend has led to a diversification in anesthetic agents and methods of their administration. Chloroform for surgical anesthesia is rapidly passing from the scene. Substitutes for ether are being introduced. New methods of administration are being developed constantly, and old methods are being refined. Although the majority of patients can be anesthetized satisfactorily by the use of ordinary anesthetic agents and methods, there is an advantage in using special agents and methods in about 35 per cent of the cases.

Avertin. — Tribromethyl alcohol (avertin) was introduced in Germany in 1926.[12] It is used as a substitute for Gwathmey's oil-ether preparation in rectal anesthesia. Originally, complete surgical anesthesia was attempted, but a dose large enough to produce this result was found to be unsafe. Experience has taught that the use of this agent is best limited to the production of basal anesthesia, the intention being to reinforce its effect with a gas, small amounts of ether being added if necessary.

Rectal administration is not a convenient method, and particular care must be taken in preparation of the enema containing tribromethyl alcohol. In the presence of pulmonary tuberculosis with cavitation, disease of the liver, and lesions of the large intestine, administration of this agent per rectum is contraindicated. In the main, results obtained with tribromethyl alcohol have been good. Patients choose the method if they have ever had any experience with it.

There are other methods, however, which seem to give equally good results. In view of the fact that deaths have been reported, following the administration of even relatively small doses of tribromethyl alcohol, other methods are to be preferred. In preparing patients for surgical anesthesia, fear and apprehension are allayed following the administration of a barbiturate in small doses. For example, 1½ grains (0.1 gram) of pentobarbital sodium may be administered the night before operation, and this dose may be repeated when the patient awakes in the morning. About forty-five minutes before the operation, 1/6 grain (0.01 gram) of morphin and 1/150 grain (0.0004 gram) of atropin may be administered hypodermically. At this time, a capsule containing 1½ grain (0.1 gram) of pentobarbital sodium may be administered if further sedation is necessary.

Evipal Soluble. — Within recent years, search for a short-acting barbiturate has proved successful. One of the newest derivatives to be given clinical trial in this country is known as evipal soluble.[8] Another preparation, which is not yet on the market, is designated by the manufacturer as No. 8064. It is considerably more potent than is evipal soluble. Satisfactory anesthesia for short operations has been produced by the intravenous injection of a 10 per cent solution of either evipal soluble or No. 8064. No more than 15 grains of either of these agents should be administered at one time. Either of these anesthetizing solutions should be injected at the rate of one cubic centimeter in fifteen seconds, until light general anesthesia is produced. Usually, not more than two cubic centimeters of either of these solutions is required to produce this effect. Injection is then halted until the patient shows some evidence of reaction, when the injection is resumed at a reduced rate; a small amount is administered intermittently to maintain anesthesia at the desired level. Like other barbiturates, evipal soluble is capable of depressing the activity of the respiratory center. The dose should be regulated entirely by the effect produced, rather than on any basis of milligrams per kilogram of body weight.

Evipal soluble and allied derivatives of the barbituric acid series have produced satisfactory anesthesia for short operations, such as incision of abscesses, extraction of one or two teeth, enucleation of an eye, puncture of the tympanum, spinal puncture for diagnosis, cystoscopic examination, or for the removal of packs from painful wounds. These drugs appear to produce anesthesia which is satisfactory for minor surgical procedures and short operations, during which slight reflex movement will not interfere with the progress of the procedure.

Divinyl Ether.—Divinyl[3] ether has been introduced and suggested as a substitute for diethyl ether. My experience with this agent is limited to a comparatively few cases, and I do not feel that I am in a position either to recommend or to condemn this new drug. It is much more potent than is diethyl ether; anesthesia is induced quickly and recovery is attained rapidly. My impression is that the results were not as satisfactory as those which were obtained with diethyl ether. Maybe the fault was in my administration, and it is probable that satisfactory methods for the administration of this drug satisfactorily will be devised.

Cyclopropane.—Cyclopropane, which was introduced by Lucas and Henderson[4] in 1929, and which was recommended for clinical use by Waters, and Schmidt,[11] shows promise of displacing ethylene. It greatly reduces the amount of ether that is necessary to produce thorough relaxation. The limits of inflammability of cyclopropane in oxygen are from 2.5 per cent to 50 per cent by volume. In clinical practice, the volume of cyclopropane in oxygen seldom needs to exceed 20 per cent. The same precautions must be taken to prevent an explosion as would be taken to prevent an explosion of ethylene. Because the gas is expensive, it is necessary to employ the carbon dioxid absorption method of administration. Anesthesia is induced rapidly and the patient seldom exhibits a period of excitement. Surgical anesthesia is attained rapidly, without evidence of cyanosis. Excessive depression of respiration and a newly developed irregularity in cardiac action represent the danger signs. Relaxation approaches that which is produced by ether. Recovery is rapid and is not accompanied by excessive nausea and vomiting. This anesthetic agent deserves a place among the useful anesthetics, but the problem is for the chemist to find an inexpensive method of producing the gas in pure form on a commercial scale.

Intratracheal Tube. — Ninety per cent of the difficulty that is encountered in the administration of an anesthetic by inhalation may be avoided by the insertion of an intratracheal tube. A Magill[6] intratracheal soft rubber tube of large caliber may be inserted through the nose or mouth, and then through the glottis into the trachea. If introduction by way of the nose is feasible, it should be possible to insert it in the trachea without the aid of a laryngoscope in 70 per cent of cases. The tube is used as an airway when ether is administered by the open drop method, or it may be connected to a gas machine, and gas, with or without ether, may be administered either by insufflation or inhalation.

The method permits easy, quiet respiration that facilitates exposure in operations in the upper portion of the abdomen and reduces intracranial pressure in operations on the brain. In certain operations on the head and neck, it precludes the necessity of the apparatus and the anesthetist's hands encroaching on the field of operation. For operative procedures within the chest, the method facilitates the control of intrapulmonary pressure. The safety of the patient is increased because artificial respiration or insufflation of oxygen is made easy and the danger of overdistending the stomach is eliminated.

LOCAL, REGIONAL, AND SPINAL ANESTHESIA

New agents have been introduced in the field of local, regional, and spinal anesthesia.

Procain.—Procain, in my opinion, still remains the agent of choice for these procedures. Procain may produce evidence of toxic reaction. Several factors are to be considered. Among the important factors are the age, weight, and blood pressure of the patient; concentration and temperature of the solution; total amount used, and rate of injection. Epinephrin has long been used to produce vasoconstriction and thus retard absorption of the procain, but occasionally the epinephrin itself causes a toxic effect. As a substitute, a synthetic product, cobefrin,[10] has been introduced and is being investigated. Usually the addition of one cubic centimeter of a 1 to 2600 solution of epinephrin to 200 cubic centimeters of a 0.5 per cent solution of procain will produce satisfactory vasoconstriction, intradermally and subcutaneously. In order to obtain a similar result, it is necessary to use 1 cubic centimeter of a 1 to 500 solution of cobefrin.

Procain is practically useless as a surface anesthetic for application over open wounds or ulcers. Pantocain, metycain, diothane, butyn, and nupercain have been applied effectively in the form

Table 1.—*Combined Use of Pantocain and Procain in Spinal Anesthesia*

Operation	Combined dose, mg.		Total physiologic saline solution, spinal fluid, cc.
	Pantocain	Procain	
Hysterectomy, Mayo vaginal	8	50	2.5
Fulguration within urinary bladder	10	50	3.0
Transplantation of ureter	12	50	3.5
Herniorrhaphy (bilateral)	12	50	3.5
Hysterectomy, complete abdominal	12	50	4.0

Spinal needle, gauge 20 to 22; rate of injection, 0.5 cc. per second; injection between second and third lumbar vertebrae.

of ointments or gels, but if the wound is large the more toxic of these agents produce signs of toxemia, namely, pallor, nausea and vomiting, and a slow pulse. These signs and symptoms have disappeared when administration of the drug is discontinued. The rationale of the use of these drugs is to produce relief of pain locally rather than by using analgesics which act systemically.

Procain is used extensively for the production of anesthesia by spinal injection; but if it is likely that the operation cannot be completed in one hour, a combination of pantocain and procain[9] may be used (Table 1). In my opinion, the dose of pantocain should be limited to approximately 10 milligrams. Usually not more than 50 milligrams of procain need be injected with it to produce anesthesia which will last from an hour and a quarter to two hours. Because pantocain is exceedingly potent, and because it tends to creep cephalad during the first twenty minutes of the operation, I consider it advisable to limit the use of this drug to operative procedures which involve structures below the umbilicus. In order to prevent anesthesia extending too far cephalad, the patient, for twenty minutes following an intradural injection of pantocain, should be kept in the horizontal position.

Sacral Block. — Sacral block is a time-tried method, but it is not as generally used as it might be. For operative procedures that involve the anus and rectum, it is the anesthetic method of choice. One may produce just as thorough anesthesia and relaxation with this method as with spinal anesthesia. In cases in which the sacral method has been employed, the patient is less likely to retch and vomit during the operation than he is if intraspinal anesthesia has been employed; and in the postoperative period there is no occurrence of headache from lumbar puncture.

Local Anesthesia.—For many orthopedic operations on the extremities, local anesthesia is satisfactory. For acute fractures, 10 cubic centimeters of a 1 per cent solution of procain may be injected into the hematoma. Anesthesia and relaxation of the muscles may be obtained. One does not need frequently to block the brachial plexus, but there are instances in which the method may be very useful. In cases in which severed tendons of the hand and wrist are to be sutured, blocking the brachial plexus provides ideal anesthesia. Many of these patients arrive in the hospital shortly after having partaken of a heavy meal. General anesthesia is, therefore, hazardous. By blocking the brachial plexus, complete sensory anesthesia may be obtained, but motor power is frequently retained. The patient is able to move certain muscles when he is told, and the surgeon is thus aided in finding the proper ends of severed tendons, which should be sutured together.

IN CONCLUSION

There are many other desirable methods which might be dealt with, but it has been sufficiently demonstrated that if an anesthetist fulfills his function in the scheme of things medical, he is practicing medicine in the fullest sense of the term.

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EXPERIMENTAL SYPHILIS RESEARCH—A REVIEW OF SOME OF THE RECENT FINDINGS*

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In selecting a subject for a chairman's address, it would be only natural for one to speak on the phase of medicine in which he was particularly well versed. In my own case, however, I find myself practically devoid of any so qualified a subject. This, together with the fact that my paper has the mean advantage of being closed to discussion, has lead me to select a subject which has not only held considerable fascination for me, but about which I have known very little. Had I known how voluminous, and I use the word literally, I should find the literature on experimental syphilis, I would probably not have welcomed this opportunity for its review quite so wholeheartedly as I did, for, in the few moments allotted to me here, I can only touch on such highlights of my reading as seem outstandingly significant. These represent the general conclusions of those research workers in this field whose standing cannot be questioned, since beyond and about their heads there seems to be an amazing amount of controversy.

NOGUCHI'S STUDIES

As you probably know, the Spirochaeta pallida was first grown in pure culture by Noguchi in 1911. He was subsequently successful in obtaining positive animal inoculations from his subcultures as well as his primary cultures. His description of the media used, method of preparation, incubation, etc., reads very simple; but it is surprising to note how many investigators have been unable to cultivate this organism. Most workers are unsuccessful in their attempts to inoculate animals from the primary culture after it is forty-eight hours old and all of the subcultures, with the exception of Noguchi's, have been negative.

The pallida cultures isolated, studied and reported in this country have been few. In addition to the several by Noguchi, there was one by Zinsser and another by Kolmer. All of these were isolated from lesions of rabbits' testicles infected with strains of pallida which had been maintained in rabbits for several generations. On the other hand, the several strains reported in Europe by Reiter, Kroo, Krantz and others have all been obtained directly from human lesions, or from the primary lesion produced in the rabbit with human material.

Since all of the pallida cultures, with the exception of the one reported by Noguchi, have immediately become avirulent, the possibility that each or all of them might have been growths of some of the other fine types of spirochaetes, must be considered. To quote Kolmer: "It seems evident that no definite proof as to the identification of any of the alleged pallida cultures can be offered until some method is found to prolong the virulence of the cultures, or until the factors are ascertained which permit of more constant results in securing the multiplication of the virulent spirochetes in culture media, even though their multiplication is accompanied by a loss of virulence."

OTHER STUDIES

Perhaps the presence of an evolutive or granular form of the Spirochaeta pallida, which has been described by so many investigators in all parts of the world, is responsible for this lack of success in the culturing of the organism. As N. R. Ingraham, Jr., in his critical review of the literature, has said: "The presence of granular forms in all the parasitic genera of the family Spirochaetaceae would indicate that this phenomenon is significant of something more than mere degeneration. If a minute resistant body is the cause of syphilitic infection, the changes that would be wrought in our ideas concerning the etiology, pathology, diagnosis, therapy and prognosis of this disease need scarcely be pointed out." Briefly, as Ingraham has suggested, it would explain many of today's unsolved mysteries of syphilis, such as:

(*a*) The long primary and secondary incubation periods.

(*b*) The discrepancy between the size of the lesions and the number of Spirochaetae pallida present.

(*c*) The scarcity of division forms in the most active lesions.

(*d*) The rapid destruction of the microörganisms by the intravenous injection of synthetic arsenicals without an immediate cure resulting.

(*e*) The comparatively high incidents of relapse in spite of the most vigorous treatment.

(*f*) The long latent periods in which hardly a manifestation of the disease is detectable, and the Spirochaeta pallida never.

(*g*) The scarcity of typical microörganisms in the lesions of late and parasyphilitic, and even, in some instances, in congenital syphilis despite the severity of these processes.

(*h*) The question of paternal transmission, which is still shrouded in mystery and doubted by the majority.

Perhaps, too, this granular form also explains why the Spirochaeta pallida is not detectable on either darkfield examination or staining of rabbits' infected lymph-gland tissue, or in the organs of animals harboring asymptomatic infections; yet why, when these tissues are emulsified and injected into rabbits' testicles, they give positive results.

But if, on the other hand, the granular form represents a mere degeneration of the Spirochaeta pallida, it is important to realize that it cannot then be brought forward to explain these perplexing problems with which the clinician and pathologist are so frequently confronted.

STAINING METHODS

From the growing to the staining of the Spirochaeta pallida, we find that its staining in fresh smears or in tissue sections is successfully accomplished either by the use of the different colored aniline dyes, basic and acid, for staining and counterstaining, or by the use of silver nitrate in varying dilutions. Of the latter, there are many described methods, each bearing the name of the investigator who first reported it. They differ only in the manner in which the preliminary treatment of the tissue is carried out, and in the reduction or precipitation of the silver salt following the treatment.

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* Chairman's address, Dermatology and Syphilology Section of the California Medical Association, at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

Olsen has made a comparison of the methods of staining Spirochaeta pallida and by all of them sections of congenital material are readily stained, although Jahnel's is the most satisfactory for this tissue. He found that for the aorta, the improved Warthin-Starry method obtains the best results, and is the only one by which any considerable percentage of organisms are demonstrated; while for staining brain tissue, Dieterle's method is best. It is apparent, then, that no one stain for the demonstration of Spirochaeta pallida in block or single sections has reached general perfection and, for this reason, it is much better to embed the tissue and cut single sections which can be stained by the various methods, selecting the one which is best suited to the given tissue. Before leaving the discussion of staining, let me remark that Warthin perfected a modification of his staining methods for the special purpose of demonstrating certain intracellular forms (ring forms, small spirochete forms and lymphocytic granules), which, because of their connection to typical spirochetes, he regarded as representing phases of the syphilitic organism.

QUESTIONABLE STRAINS OF SPIROCHAETA PALLIDA

Now there is the problem of the questionable strains of Spirochaeta pallida. Levaditi and his coworkers have contended that there is a "neurotropic" strain of Spirochaeta pallida (associated with the nervous system) as distinct from the "dermotropic" spirochete responsible for lesions of the skin and mucous membranes. His conclusions were based upon the comparison of a strain obtained from a case of general paresis with one isolated from a chancre.

Other investigators believe that conclusive proof which would warrant the separation of types of Spirochaeta pallida is still lacking. All of these factors have been shown to vary exceedingly, and to be modified by such important considerations as the time of transplant, condition of the lesion, method of preparing suspension of spirochetes, mode of infection and the type, age and condition of the animal used.

It is interesting to note that a rabbit which is inoculated with the Nichols strain (originally obtained from the spinal fluid of a patient with neurosyphilis) is found, after ninety days, to be resistant to another reinfection with the Nichols strain, although it can be superinfected with the Truffi strain, for instance—a strain originally obtained by Truffi from human chancre material. Neither of these strains, however, will penetrate the rabbits' nervous system, even though introduced directly into the spinal fluid or brain tissue.

Working on his problem, Schlossberger found that a mouse, inoculated with either of these strains, acquired an asymptomatic infection; but that, by inoculating a rabbit's testicle with this mouse's brain, the rabbit developed a primary and secondary syphilis which involved its nervous system as well. Thus it was evident that the spirochetes, as a result of a sojourn in the nerve tissue of the mouse, had acquired neurotropic properties rendering them capable of penetrating into a rabbit's nervous system.

Raiziss then carried the strain through four passages, from rabbit to rabbit, by means of transplanting the brain substance of the rabbit into the testicles of other rabbits, without the loss of this neurotropic property in these spirochetes. The term "neurotropic" is used by him, not in the sense of Levaditi, who employed it to designate affinity for nerve tissue and neutrality toward cutaneous tissue, but to denote this modified power of penetration.

IMMUNITY PROBLEMS

Delving into the question of immunity, I have found it pretty well divided into two schools of thought. The first, known as the Neisserian Doctrine, has for its adherents such men as Neisser, Finger, Kolle, Prigge and Frei. This doctrine is based on the following experiments made by Neisser. He inoculated a series of apes with syphilitic virus and produced syphilitic lesions. After the lesions had healed, he inoculated them a second time with syphilitic virus and failed to produce a second attack of syphilis in most of them. He then examined the internal organs of these apparently refractory animals, and found that they were still harboring virulent syphilitic virus. He next proceeded to treat a series of syphilitic apes with various antisyphilitic drugs and then tested the behavior of some of these animals toward a second syphilitic infection. In other treated animals, he investigated the presence or absence of syphilitic virus in the internal organs. The comparison of the results in the two sets of treated animals led him to conclude that immunity in syphilis is dependent upon the presence of a coexisting syphilitic infection, and that there is no immunity without infection—that is to say, without living spirochetes somewhere in the body—and that when these spirochetes are destroyed, the immunity or resistance disappears at once. He found also that the acquisition of a second attack of syphilis was proof that the first infection had been completely eliminated. The so-called reinoculation test for the cure of syphilis is based on this theory.

The other school of thought has as its adherents Chesney, Voegtlin and Armstrong, Adachi, Manteufel, Worms, and Breinl and Wagner. It really should be known as the Chesney Doctrine on account of the tremendous amount of investigation done by Chesney along these lines.

He believes that immunity in syphilis is not dependent upon the presence of the infection, but is an attribute which, once acquired, persists thereafter, even if the infection be eliminated. He found that the response of a syphilitic animal to a second infection with syphilitic virus depended upon several factors, notably the material used for the second inoculation and the time at which the inoculation is made. Chesney found that rabbits could be successfully reinfected with the same strain of Spirochaeta pallida up to an approximate forty-five to ninety days after the primary inoculation. Thereafter they developed a resistance, which was of such a nature as to permanently protect them against a reinfection with the same strain of the Spirochaeta pallida. He then administered curative doses of arsphenamin to these rabbits, and after waiting several months, he obtained negative results, when he transferred their lymph nodes into normal rabbit testicles, indicating that their tissues had been sterilized of the pallida infection by the arsenic medication. He then reinoculated the rabbits so treated with the same strain of Spirochaeta pallida and no chancre developed. After waiting several months, during which time these animals presented no clinical signs or symptoms of the disease, he injected emulsions of their various organs into normal rabbits' testicles and again obtained negative results. He interpreted these experiments as follows: Once the resistant state was fully developed, the sterilizing of the animal tissues with spirocheticides could not disturb the immunity which these animals possessed against the particular strain of Spirochaeta pallida used. However, when these same animals, possessing this particular strain-immunity following the chemical sterilization, after a due interval were reinoculated with a different strain of Spirochaeta pallida, nearly 50 per cent developed chancres at the site of inoculation. A large percentage of those apparently possessing chancre immunity proved (as indicated by positive lymph node transfers) to be infected, showing that the resistant state, as far as the rabbit is concerned anyway, is strain specific and not species specific. There is no time to give you the arguments, pro and con, which I found supporting one or the other of these two theories. It would seem, however, that as our knowledge is advancing, more and more support is being given to the Chesney theory.

Let me say here that Brown and Pearce, from the results of experiments with syphilis on rabbits, deduced two laws that regulate the biologic events taking place during experimental infection. Briefly, they are: The law of inverse proportions (the more intensive the early manifestations, the less intense are the late manifestations of the disease) and the law of sequence (by which the various systems of tissues are affected successively). This law is clearly evident in human syphilis when the integument, the internal organs, the cardiovascular system and the central nervous system are affected successively and in combination with great regularity.

THE NEISSERIAN AND CHESNEY "DOCTRINES"

Should the findings observed in animals prove to be applicable to man, it will be important for us as clinicians to know which of these two theories is correct. If the Neisserian Doctrine is the correct one, it is obvious that our present method of treatment is proper; that is, the rapid sterilization of the tissues with spirocheticides before the invading organisms can become enmeshed in areas of fibrous isolation due to the accompanying obliterative endarteritis. We must keep in mind, however, that, in view of our recent experimental knowledge, the reinoculation test as a criterion of cure for syphilis is of no value, for, as I have already pointed out, there is no assurance that the immunity in this regard is anything more than a "chancre immunity."

If, on the other hand, the "Chesney Doctrine" is the correct one, the institution of early therapy would prevent the development of the resistant state. This would deprive the host of a protective mechanism with which to combat serious later manifestations should a few attenuated spirochetes lurking in some poorly-nourished tissue become active. Following Chesney's line of thought, late therapy, which does not preclude the possibility of complete tissue sterilization, would allow the tissues ample time to develop an immunity.

IN CONCLUSION

I had hoped to include in this review the cross-immunity existing between syphilis and certain other disease caused by spirochetes, especially yaws, and also to discuss the differences in immunity which exist between the sexes, as well as what rôle lipoids play in immunity and in the mechanism of the Wassermann reaction, etc., but I shall have to forego their discussion here because of the limited time.

490 Post Street.

THE RELATION BETWEEN THE ANTERIOR PITUITARY HORMONES ACTING ON THYROID GLAND AND ON OVARY*

By Leo Loeb, M.D.
W. C. Anderson, M.D.
John Saxton, M.D.
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and
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In addition to the well known hormones which cause growth and maturation of large follicles and luteinization processes in the ovary, we have found in the anterior pituitaries of cattle, sheep and hog, which are generally employed for the preparation of extracts of this gland, the presence of a substance which injures the follicles. This substance can be especially readily demonstrated if we use the ovary of the guinea-pig as test organ. Implantation of guinea-pig anterior pituitary causes mainly growth and maturation of the enlarged

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* These investigations were carried out with the aid of a grant from the International Cancer Research Foundation, and with the aid of a grant for research in science made to Washington University by the Rockefeller Foundation.

From the department of pathology, Washington University School of Medicine, St. Louis, Missouri.

Abstract of an address delivered before the Endocrinology Study Club of Los Angeles.

follicles, while implantation of rabbit, rat, cat and human anterior pituitaries induces in addition to these effects various luteinization processes. Among the latter again, two types can be distinguished, namely, (1) those taking place in large mature follicles, and (2) those occurring in smaller sized follicles, and especially in follicles undergoing connective tissue atresia.

As to the thyroid stimulating hormone, we observed that under ordinary conditions it is closely associated especially with the substance injuring the follicles and with the hormone inducing the second type of luteinization processes. It is, therefore, present only in a very small quantity in the guinea-pig anterior pituitary, while it is present in larger quantities in the group of anterior pituitaries such as those from rat, rabbit and man; but it is especially prominent in extracts from cattle, sheep and pig anterior pituitaries. On the other hand, it is entirely lacking in the urine of pregnant women. We see then that the anterior pituitary glands from different species exert different actions.

We now wished to determine whether this association between the thyroid stimulating hormone and the two anterior pituitary substances acting on the ovary which we mentioned above, could not be broken experimentally. For this purpose we used a simple method which proved very effective and gave clear-cut results. We kept human and cattle anterior pituitary glands in solutions of various substances for certain periods and following this procedure we implanted pieces of gland thus treated into the guinea-pig. This was followed by a microscopic examination of the sex organs, thyroid and adrenal glands of the treated animals. Of the results obtained so far only a few will be mentioned here.

1. Anterior pituitary glands of cattle which have been subjected to the action of a great variety of solutions previous to their implantation no longer exert their usual destructive effect on the ovarian follicles of the guinea-pig. Such anterior pituitary glands now act very similar to human, rabbit and rat anterior pituitaries. However, it can be shown in some ways that the substance which ordinarily produces such destructive effects is still present in these glands but somehow is prevented from exerting its full action.

2. Solutions of formalin of a certain strength destroy or inactivate the thyroid stimulating and the luteinizing hormone, while leaving intact the hormone causing growth and maturation of large follicles.

3. Certain other substances, such as alcohol, or ether may prevent or diminish especially the effects of the hormone inducing growth and maturation of follicles while leaving intact the luteinizing effects and the stimulating action on the thyroid gland.

4. It can be experimentally shown that the action of the thyroid stimulating hormone may be separated also from the luteinizing action, and on the other hand it may occur in combination with the hormone causing growth and maturation of follicles.

5. The actions of the anterior pituitaries of several different species can, therefore, be experimentally transformed into each other. It appears to us that the method used in these experiments may be extended to the analysis of various other endocrine problems.

INTRACAPSULAR EXTRACTION OF SENILE CATARACT*

By Joseph L. McCool, M.D.
and
C. Allen Dickey, M.D.
San Francisco

Discussion *by W. D. Horner, M.D., San Francisco; A. Ray Irvine, M.D., Los Angeles; Roderic O'Connor, M.D., San Francisco.*

THE report of but a few cases of senile cataract extracted by a particular method may have no value from a statistical point of view, nor as an argument in advocating the adoption of the method used, for the number of cases is too insignificant; nevertheless I make no apology for the few that I have to offer, for I am sure that often the experience of operators of comparatively limited opportunity helps us to judge of the advantages and disadvantages of the various procedures which are being advocated for the complete removal of the lens in its capsule.

CAPSULOTOMY AND INTRACAPSULAR METHODS OF CATARACT EXTRACTION

Unfortunately the wide divergence of opinion which exists among surgeons of mature experience as to the relative merits of the capsulotomy and intracapsular methods of cataract extraction, has led to discussions which at times have bordered on the acrimonious. While there are many sound arguments on both sides of the question, it cannot be denied by the opponents of the intracapsular that the ideal to be striven for in any cataract operation is the complete removal of the capsule, cortex and nucleus; provided, of course, that this can be accomplished in such a manner as to insure the maximum operative and postoperative safety to the eye.

FOUR TYPES OF INTRACAPSULAR OPERATIONS

Intracapsular operations are of four types: In the first, the lens is expelled by direct pressure on it and on the contents of the globe. In the second, an instrument is introduced into the eye which, acting like a scoop, extracts the lens in its capsule. In the third, the zonule is ruptured by traction on the lens capsule. In the fourth, the lens is extracted by a combination of two or more of these procedures.

The Smith[1,5] Indian operation is representative of the first group. Despite the fact that many thousands of operations have been performed through this method by skillful surgeons during the last forty years, it is considered by ophthalmic surgeons an unsafe procedure, and for that reason has never been generally accepted. Smith afterward modified his original technique, reference to which will be made later in this paper.

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*From the Department of Ophthalmology, University of California Medical School.

Read before the Eye, Ear, Nose and Throat Section of the California Medical Association at the sixty-third annual session, Riverside, April 30 to May 3, 1934.

In the light of our present knowledge of the great liability to infection incident upon the deliberate introduction of any instrument into the vitreous, unless forced to do so to meet an emergency, it would seem that any operation typical of the second group would be unsurgical, dangerous, and therefore undesirable.

To deliver the lens in its capsule by traction above, or by a combination of traction and expression, seems to approach closer to the ideal than any method which we now have.

Stanculeanu[2] was probably the first deliberately to dislocate the lens by grasping the anterior capsule with a large curved forceps and expressing it in its capsule by counterpressure. Knapp[3] improved this technique immeasurably by using a forceps, which was much better adapted to the purpose, and the large number of successful results which he reported encouraged other operators, among them the writer, to use this method of extraction.

In 1910 Vard Hulen[6] suggested a method of extraction by means of vacuum fixation, which he had used successfully in a number of cases. A year later he published another paper; but whether he is still practicing the operation or has abandoned it, I do not know. In any event, since then I have seen nothing which he has written on the subject.

Barraquer later published a paper in which he described the technique devised by him for extracting the lens in its capsule, by applying the same principle as that used by Hulen—vacuum fixation. He called the instrument an "erisiphake," and the operation "phakoerisis." While the original idea was Hulen's, nevertheless, because of the ingenious instruments which he devised, the painstaking experiments performed to establish the principles involved, his large clinical experience, and the skillful use of the method in practice, the operation will no doubt be called the "Barraquer."

CHIEF COMPLICATIONS IN CATARACT EXTRACTIONS

In any form of cataract operation, whether it be capsulotomy or intracapsular, the chief complications which may arise, either at the time of operating or in the healing process, are loss of vitreous and iritis. The specter of the former and the relative infrequency of the latter are at once the vice and virtue of the intracapsular operation. To say that liability to vitreous loss is no greater in any form of the intracapsular than in the capsulotomy procedure is absurd, but it is also unfair to say that all types of intracapsular operations are equally liable to this unfortunate complication. However, no matter what technique be used, the very nature of the structures involved renders the eye more liable to this accident. The support which the posterior capsule and the zonule attachment give to the vitreous in the capsulotomy operation is definite and real, and of course, is lacking when these structures are removed.

When judging any operative technique from the standpoint of vitreous loss, it seems to me that it is essential to differentiate sharply between prolapse of this body as the direct result of the manipulation in effecting the delivery of the lens, and that which occurs either before or after this has been accomplished, due either to the action of the extra-ocular muscles, the orbicularis, or both. All forms of intracapsular delivery may be accomplished by vitreous loss due to uncontrollable muscular action; but when one is considering this accident as the result of direct manipulation on the eye itself, certainly it is far more frequently encountered in the type of extraction due to pressure alone, than it is where traction and pressure are used synchronously.

THREE PRELIMINARY PROCEDURES IN INTRA-OCULAR COMPLICATIONS

There are three preliminary procedures employed in practically all intra-ocular operations which should be mentioned at this time. They have reduced immeasurably the risk attendant upon the extraction of a cataract either by the intracapsular or extracapsular method.

I refer to akinesis, deep orbital injections and the superior rectus suture.

AKINESIS

In order to paralyze the orbicularis, Wright advocated the infiltration of the tissue surrounding the main trunk of the facial nerves after it emerged from the stylo mastoid foramen. This method never became very popular, chiefly because of the difficulty in reaching the nerve, and because of the facial palsy which ensued.

The method suggested by O'Brien, of infiltrating the tissues surrounding the temperofacial branch of the seventh nerve as it crosses the condyle of the inferior maxilla, is used by many surgeons, and has much to recommend it.

Finally, the area immediately surrounding the orbicularis may be infiltrated, as suggested by Van Lint. This is the method, slightly modified, which I practice, as follows:

A 40-millimeter platino-iridium needle is used to make the injection at a point 2½ centimeters external to the external canthus. The needle should be thrust down to the periosteum before any of the solution is injected, as the terminal fibers of this nerve lie very close to the bone at this point. It is then directed along the inferior margin of the orbit, injecting a 2 per cent novocain solution as it advances. The needle is partially withdrawn, and more of the solution is injected in the same manner along the superior margin of the orbit.

With a smaller and finer needle the upper and lower lids are infiltrated to make the insertion of the lid sutures painless. Finally, a small amount of the solution is injected along the side of the nose above the inner canthus. This anesthetizes the skin of this region, and prevents any sudden movement of the patient, should the point of the cataract knife prick the skin during the forward thrust.

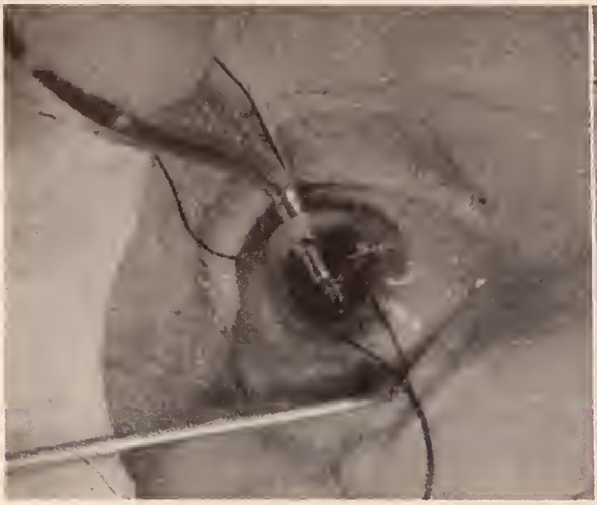

Fig. 1

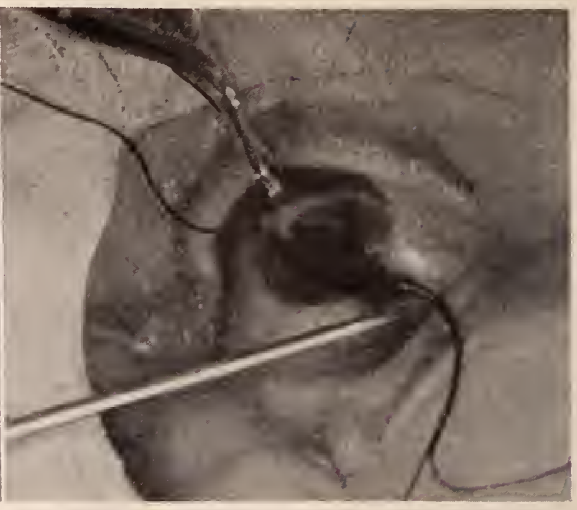

Fig. 2

Fig. 1.—Forceps grasping anterior capsule of lens. Tip of expression hook resting on sclera 6 millimeters below limbus, preparatory to making pressure at this time. (Dr. Charles Fulmer.)[*]

Fig. 2.—Lens partially dislocated by combined pressure below and traction on the capsule by forceps. (Dr. Charles Fulmer.)

Anyone who has ever seen the flaccid condition of the lids so injected can appreciate the fact that at least one source of danger has been eliminated.

However, vitreous prolapse due to movements of the eye and to the normal tonus of the extraocular muscle is difficult to eliminate, and cannot be attributed to any contraction of the orbicularis.

Twenty-five years' experience in ophthalmic surgery has convinced me that 90 per cent of the complications which arise during operations are due to pain, and that if this is eliminated there is a much greater chance of completing the operation satisfactorily.

Retrobulbar injections of novocain solution are used by most ophthalmic surgeons, and this part of the technique certainly merits the popularity which it enjoys.

If I were obliged to discard all of the measures which we use to safeguard the integrity of the eye in intra-ocular surgery save one, I would unhesitatingly retain retrobulbar injections. It not only makes the iridotomy or iridectomy absolutely painless, but prevents any involuntary movement of the patient should the iris be cut when the incision is completed. Furthermore, there is no evidence of pain when the lens is passing through the pupil. At this critical stage of the operation it is imperative that the operator shall have complete control of the situation, which he most certainly cannot have if the maneuver is painful.

I use 2 cubic centimeters of 4 per cent novocain solution, to which have been added, immediately before the injection is given, two drops of 1-1000 adrenalin solution.

The needle, which is of platino-iridium 40 millimeters long and brought to a cherry-red by passage through an alcohol flame, enters the orbit at the lower orbital margin about 1 centimeter down, and to the nasal side of the external canthal ligament. The point of the needle follows the lower external wall of the orbit for its entire length. Before injecting any fluid, the plunger is withdrawn, so that one may be sure that the needle has not entered a vein. By manipulating the syringe, the tip of the needle is directed beneath the lower border of the external rectus muscle close to the globe, so that the maximum amount of the solution shall infiltrate the region of the ciliary ganglion and nerves.

After the needle is withdrawn a cotton or gauze compress is placed on the closed lids, and slight pressure is made to prevent any proptosis which might ensue. Fortunately, I have never had to meet this complication, and it is not likely to occur if only 2 cubic centimeters of the solution are used.

This injection follows immediately the lid injections, and usually there is an interval of from five to eight minutes before the incision is made.

Two by-products of the retrobulbar injections are slight hypotomy and paresis of the inferior rectus muscle. I consider them advantages, because the former reduces the liability of undue bulging of the wound, possibly vitreous prolapse, and the latter prevents sudden looking down during the operation.

SUPERIOR RECTUS SUTURE

In order to facilitate placing of the superior rectus suture, the assistant forcibly rotates the eyeball downward and the tendon of the muscle is grasped with a very sharp mouse-tooth forceps immediately behind the insertion. It is important that the tendon itself shall be grasped by the forceps, as well as the overlying conjunctiva and capsule. If the latter only are included in the suture, the control of the movements of the eye will be ineffectual. The closed forceps, therefore, should be placed lightly over the insertion of the tendon, and the conjunctiva and capsule pushed to either side. The forceps are opened the required amount, then closed over the tendon by making substantial pressure toward the center of the globe and the suture inserted.

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[*] I am indebted to Dr. Charles Fulmer, St. Luke's Hospital, San Francisco, for the telescopic photographs from which the illustrations were taken.

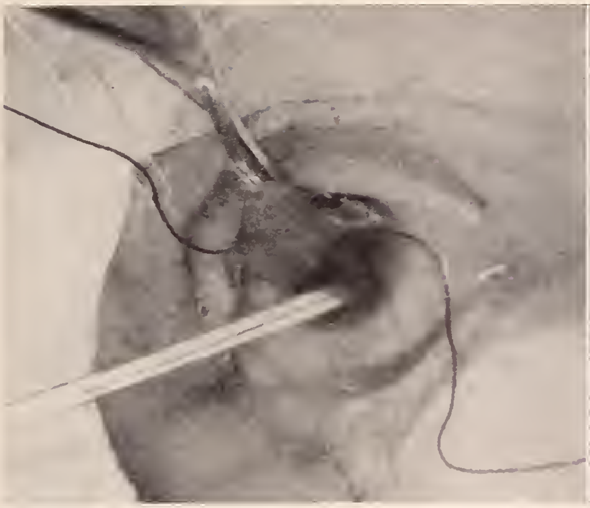

Fig. 3

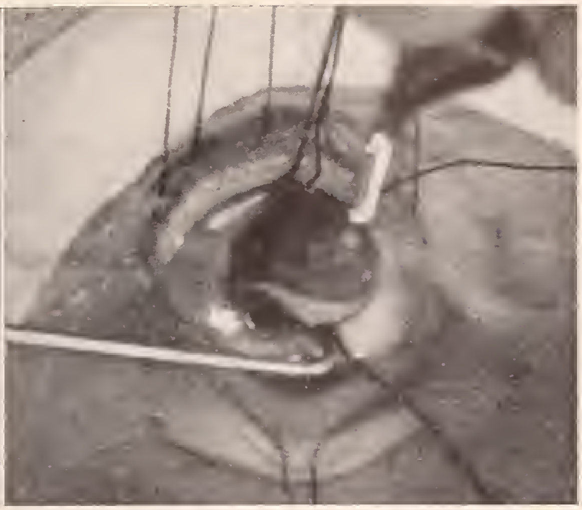

Fig. 4

Fig. 3.—All zonule fibers are broken except those above which are the last to give way. Cornea is tucked behind emerging lens by the tip of the expression hook. (Dr. Charles Fulmer.)

Fig. 4.—This picture represents the same stage of the delivery as No. 111 in another case. (Dr. Charles Fulmer.)

Following the suggestion of Doctor Dickey, a small amount of a 3 per cent solution of suprarenin bitartrate is applied to the region below the cornea, from 4 to 8 o'clock, in order to effect a localized dilatation of the pupil at this point. A small cotton pledget, saturated with a few drops of the solution, may be applied at this point, or the area wiped with the solution carried on a cotton-wound applicator.

Applied in this manner, it is just as effective as a subconjunctival injection of a weaker solution, and has the added advantage in that it does not balloon the conjunctiva and interfere with fixation.

The application should be made about five minutes before the eye is incised.

INITIAL DISSECTION

The next step is to dissect from above the cornea a small triangular flap, consisting of conjunctiva and underlying tissue. This is undermined down to the limbus. Number 1 black silk suture, threaded on a No. 6 Gruss needle, is passed through the tip of the flap and then through the conjunctiva above. The free end of the suture and a portion of the loop are laid over the cornea, and are subsequently used by the assistant to raise the corneal flap when the incision is made; the iridotomy is performed and the operator inserts the capsule forceps.

THREE PROCEDURES OF IMPORTANCE

The three points upon which I should like to lay particular stress in this paper are the lid control with sutures, the combined capsule forceps and needle, and finally, the manner in which the lens is dislocated and delivered.

LID CONTROL WITH SUTURES

Several years ago I discarded specula, lid hooks and retractors in favor of multiple sutures for controlling the lids in cataract extractions; and also in all the intra-ocular operations in which it is necessary or desirable to raise the lids from the globe in order to enlarge the operative field or make it more accessible.

With good akinesis, the flaccid lower lid offers no problem. In many cases it makes no pressure on the globe and may be pushed out of the way with the fixation forceps; however, it is better to insert a double suture in the middle of the lid. The two free ends are clamped with a light mosquito forceps, the weight of which is usually sufficient to evert the lid so it may be held by an assistant.

The control of the upper lid is not quite so simple, and much depends upon the manner in which the sutures are placed and manipulated.

Three double sutures must be used: neither one nor two will do. The use of lid sutures for the control of the lids is not new. One of my colleagues, Doctor Horner, has been using a single suture in the upper lid for some time, in his work at the San Francisco County Hospital; but I feel that three sutures are required to afford the necessary flexibility, which is so desirable in the proper manipulation of the upper lid. The middle of the upper lid is grasped with a light dressing forceps, one blade on the conjunctiva and one on the skin surface. A curved needle, carrying about eight inches of No. 3 white twisted silk, is inserted 3 millimeters from the lid border in such a way so as to include in its bite skin, muscle and pretarsal fascia and, if possible, a portion of the tarsal plate. If the needle should emerge on the conjunctival surface, no harm would be done; but it is not necessary to do so, to secure adequate control of the lid.

Two more sutures are inserted, one midway between the first and the external canthus, and the other midway between the first and the internal canthus.

The six sutures are then arranged in such a way so that they shall be parallel to one another, and are held in place by a special forceps. While they are still in the operator's grasp, before the clamp is finally closed, the two central sutures are drawn up shorter than the lateral ones, so as to ensure a curved lid border—the reason for which is obvious. The sutures are clamped about two inches from the lid margin.

If a single suture is used, a v-shaped arrangement of the lid is effected; and while this assures ample space in the center, the two sides of the lid margin in certain eyes has an undesirable tendency to compress the globe. Furthermore, even though it does not compress the globe, there is a tendency for the lateral margins of the lid to cover the ends of the incision, and so interfere with the toilet of the wound.

If two sutures are used, the straight edge of the lid between the sutures limits the operative field, and also interferes seriously with the toilet of the wound.

It is important that each pair of sutures shall be equi-distant from the other when the clamp is finally closed and locked. They should not be bunched, because the ability to manipulate the margin of the lid is then lost.

With the three sutures inserted and held in the clamp, as I have suggested, the assistant can manipulate the nasal and temporal margin of the lid so that the operator shall have free access to any part of the wound and prevent it from touching the globe at any point.

With regard to the control of the upper lid during the several stages of a cataract operation, there are two points which I should like to emphasize: first, the position of the lid when the incision and iridotomy are made, and second, the position which it is made to assume when the lens is being delivered, and immediately afterwards until the operation is completed.

While the incision is being made, it is essential that the operator shall have as much room as possible. This is accomplished by making traction on the lid sutures in a plane at right angles to the optic axis. This position is maintained while the iridotomy is made, and until the capsule forceps have been inserted into the anterior chamber and have grasped the capsule of the lens.

As soon as the dislocation and expression of the lens have begun, the forceps controlling the upper lid sutures are gradually lifted as much as possible. This will usually not exceed 30 degrees from the horizontal, while the capsule forceps are in the eye. However, as soon as the lens is delivered, the forceps are raised still more, so that the axis of traction is almost coincident with the optic axis.

The advantage of the triple-lid sutures is that the assistant is able to raise or lower the lid any required amount to meet contingencies as they may arise. Except in those cases which have prominent eyeballs, the conjunctival suture is usually tied under the partially lowered upper lid.

The reposition of the iris, and the adjustment of the conjunctival flap are effected from either side, also beneath a partially lowered lid.

The question may be asked whether there is a tendency to lid eversion when traction on the sutures is made. I have had two cases in which this did occur when traction was made at right angles to the optic axis, but never except in this position. A small Desmarres lid elevator, placed under the upper lid, will counteract this complication. This should be allowed to remain until the lens is delivered. It may be removed during the toilet of the wound or allowed to remain if everything is going well. However, eversion occurs too infrequently to be considered a serious objection to the use of the triple sutures for controlling the upper lid.

PROCEDURE WITH THE CAPSULE

For the past twenty years, with the exception of an interlude of three during which I made use of the Barraquer operation of vacuum fixation, I have used a technique modified after that which was first described by Torok and later practiced by Elschnig.

In the Stanculeanu-Knapp operation, the lens is dislocated with a blunt forceps; after the zonule fibres have been ruptured, the forceps are withdrawn and the lens in its capsule is expressed as in the extracapsular operation.

In this Torok-Elschnig operation, the capsule is grasped as low down as possible and by a side-to-side, up-and-down motion, the zonule fibres are broken. Instead of releasing the capsule, it is retained in the grasp of the forceps and pressure is made on the eyeball below the limbus in such a manner that the lens is tumbled; viz., it rotates around a horizontal axis, so that the lower edge is delivered first.

The technique which I now use was inspired through a paper by Smith,[5] in which he described a method that he has developed whereby he deliberately tumbles all types of lenses by utilizing the vitreous to effect the rupture of the zonule.

In his original method for tumbling the lens, the tip of the expression hook was placed over the lower portion of the cornea and pressure was made in such a way that the tip rested against the ciliary ridge. After this occurred, traction was made toward the patient's feet, thereby permitting the vitreous body to force its way between the ciliary ridge and the lower edge of the lens, and so break the zonule at this point. He found, however, that this was not applicable to all types of cataract. He abandoned this method, and instead places a spoon over the wound so as to support the upper half of the lens and the underlying vitreous. The expression hook is then laid flat on the sclera, with the knee toward the *cul-de-sac* and the tip resting on the globe well below the limbus. By making pressure with the entire hook, the vitreous is forced between the ciliary ridge and the equator of the lens, the zonule is ruptured and the underlying vitreous revolves the lens around the horizontal axis. The pressure of the spoon above holds the upper half of the lens in position and facilitates the revolution.

TABLE 1.—INTRACAPSULAR CATARACT EXTRACTION (100 CASES)

	Number of Cases
1. Age—	
40 to 50	2
51 to 60	30
61 to 70	41
71 to 80	22
Over 81	5
2. Type—	
Immature	60
Mature	36
Hypermature	4
3. Visual results—	
20/15	24
20/20	20
*20/25	18
*20/30—(16 temporary)	21
*20/40—(5 temporary)	8
20/50	4
20/75	3
20/100	1
No improvement	1
4. Complications—	
Vitreous loss 1 20/15, 2 20/20, 2 20/30.	5
Intra-ocular hemorrhage	6
Iris prolapse 2 cut off, 1 replaced.	6
Delayed union (over one week)	4
Postoperative iritis	3
Detachment of retina (Nine months postoperative.)	1
Diabetic retinitis	2
Glaucoma—postoperative	3
Controlled with miotics	2
Cyclodialysis	1
Glaucoma—pre-operative	2
Iridectomy two months before extraction	1
La Grange at time of extraction	1
Bulging of wound	2
Flap placed over and cauterized	1
Iris prolapse with high astigmatism (Contact glass 20/40.)	1
Expulsive choroidal hemorrhage none.	
Panophthalmitis none.	

Explanation of results—

1 20/50 corneal opacities.
1 20/50 macular changes (senile).
1 20/50 diabetic retinitis.
1 20/50 intra-ocular hemorrhage.
2 20/75 intra-ocular hemorrhage.
1 20/75 iris prolapse with resultant bulging of wound. High astigmatism.
1 20/100 glaucomatous changes. La Grange done at time of cataract extraction.
1 no improvement—glaucoma had temporal light field only. No light perception in other eye.

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* Tests made two weeks after operation. Fair to assume that permanent correction would yield better visual acuity.

The part of this technique which I have adopted is that in which the vitreous is used to break the zonule fibres. However, instead of using the spoon to make the counter pressure over the wound, it seemed to me that if the capsule was grasped in the pupillary area, and not near the lower margin of the pupil, it would afford the necessary counterpressure against which the lower half of the lens could be made to revolve in its delivery.

It is important that only a very small bite of the capsule shall be taken by the forceps so as to avoid stretching the capsule and thereby inviting a rupture of this membrane.

Unlike most of the other operations in which a blunt capsule forceps is used, no attempt is made by movement to dislocate the lens at any point. It is held firmly, but lightly in this position which I have just described, until after the lower portion of the lens is dislocated. This is the maneuver, borrowed from Smith's technique, which takes the place of the spoon or spatula placed over the wound.

Without making any traction on the capsule whatsoever, the tip of the expression hook is placed on the sclera at a point at least 5 millimeters from the limbus and pressure is exerted directly toward the center of the globe for a few seconds. If there is no evidence of the zonule rupturing opposite this point, which can be detected at once by bulging of the iris, the tip is moved around from side to side maintaining the same distance from the limbus. This maneuver might be called feeling for a weak spot in the zonule.

In not a few cases one will encounter lenses in which the zonule does rupture at one or the other side of the vertical meridian.

The moment that the operator is sure that the zonule has ruptured, the pressure on the globe is relaxed and for the first time slight traction on the forceps is exerted.

DISLOCATION AND DELIVERY OF THE LENS

As the delivery progresses the tip of the expression hook follows the emerging lens and gradually folds the lower portion of the cornea behind it, maintaining this membrane against the lens. If the lens is hard, with very little soft cortical material, the operator can see a very definite revolution of the lens around the horizontal axis. Many times, however, a lens with much soft cortex will actually mold itself in delivery and hang suspended on the forceps without any visible tumbling.

In order to convey in a few words the various steps in the delivery of the lens, let me segregate them as follows:

Fixation of the lens with the capsule forceps with no traction, pressure on the globe with the tip of the expression hook four or five millimeters below the limbus in the vertical meridian, a sliding motion with pressure to either side concentric with the limbus, pressure of vitreous against the back of the lower half of the lens and between the equator and the ciliary ridge; as the lens begins to show evidence of dislocation, begin traction and release scleral pressure, and as the movement progresses, more traction and a sliding upward of the tip of the expression hook to tuck the cornea behind the lens as it passes between the lips of the wound.

Occasionally, just as the lens is about to be delivered and the cornea has been tucked against its posterior surface, it refuses to budge any further. It lies half in and half out of the wound, with the lower edge pointing toward the operator; the body of the lens lies between the scleral lip above and the tip of the expression hook below with the cornea between it and the lens.

The capsule forceps may retain their hold on the unruptured capsule or have torn this membrane, and despite the fact that the cornea is tucked behind the lens, it refuses to budge. There are times when this complication presents itself although the lens is not out of the wound far enough to permit of rotation by the concavity of the expression hook. To meet this emergency, I devised the combined needle and capsule forceps. Without releasing the pressure with the point of the expression hook, I hold the lens in position, reverse the capsule forceps, transfix the lens with the needle and gently rotate it out of the wound.

PROCEDURE AFTER DELIVERY OF THE LENS

As soon as the lens is delivered, the conjunctival suture is tied. In the event that the capsule has ruptured as the lens is delivered, capsule tags which remain between the lips of the wound are very gently withdrawn with fine forceps.

The iris is replaced by passing the spatula beneath the closed wound from either side, and the conjunctiva is replaced. One per cent eserin and White's ointment are placed in the lower *cul-de-sac,* and the lids are closed. Both eyes are covered with light pads held in place by adhesive strips, and the operated eye is covered with a Fox aluminum shield.

450 Sutter Street.

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DISCUSSION

W. D. Horner, M. D. (490 Post Street, San Francisco).—Doctors McCool and Dickey have given us a clean-cut presentation of the way they do an intracapsular extraction. That the method is sound and practical, I am convinced; for not only have I seen them beautifully demonstrate it many times, but I have had the opportunity of using it on my own patients.

The increasing popularity of the intracapsular operation is suggested by the recent appearance of several new and improved types of capsule forceps in instrument catalogues. These are designed to facilitate easy entrance to the anterior chamber, and to provide a more rugged grasp of the capsule.

Intracapsular extraction may not be suitable for all ophthalmic surgeons nor is it necessary; yet for those who have had the opportunity to acquire the necessary technique, it offers the optimum in results. If we can remove a cataract intracapsularly and leave a round pupil, we have given our patient the maximum in cosmetic result, visual acuity and the elimination of postoperative complications, including secondary cataract.

I would like to emphasize some of the safety factors mentioned in this paper. These are equally important, whether one operates by intra- or extracapsular methods. Proper administration of a hypnotic, such as barbital or allonal, will provide a good night's rest for the patient prior to operation. A second administration an hour before operation reduces apprehension to a minimum. Pain during operation is effectively prevented by a retrobulbar injection, and squeezing is reduced to a remote possibility by akinesis. Tension on the superior rectus suture makes it unnecessary for the patient to voluntarily look down, hence he need not be spoken to nor have the fear that he is not coöperating well. After deep orbital injections, the use of a superior rectus suture is imperative, since the patient will probably not have sufficient power in the inferior rectus to look down. I believe that the retro-orbital injection should be made before akinesis. There is always the possibility of orbital bleeding. In my one case so far where this occurred, the proptosis appeared immediately, but I have been told of a case where injection was followed immediately by corneal section. Proptosis then occurred and led to loss of the ocular contents. By the time akinesis is given and the lid sutures placed, there is no likelihood of delayed orbital bleeding.

After tying both preformed conjunctival flaps and those made during the section, I prefer the latter, as I think that there is less troublesome bleeding at the limbus.

Lid control by sutures I believe originated from my service at San Francisco Hospital. The lack of a skilled assistant made it necessary for me to use internes without previous eye experience. Single sutures in the upper and lower lids made it possible for an interne to assist satisfactorily where he would be unreliable with a mechanical lid hook. I have never favored a lid speculum in cataract extraction. Multiple sutures are an advantage over a single one, so I have adopted a W-shaped suture, which supports the lid by four strands, and has proved adequate.

We have not used a speculum or lid hooks at either of the University of California services for several years, and I am sure all of the staff will agree that the lids are held under better control than by any other method. The assistant can vary tension at will, can at once detect squeezing on the part of the patient and if necessary he may immediately close the eye by lifting the lid free of the incision and quickly drawing it down. This is much simpler than removing a speculum or lid retractor, and leaves one still in control of the lid.

I have designed a special hemostat with jaws faced with brass which hold the lid sutures without slipping. On top of the upper blade there is a small hook through which the superior rectus suture runs to be held taut by pressure of the assistant's thumb against a small corrugated face plate.

Occasionally, when the lens is half-delivered, the capsule ruptures and slips off the lens like a coat. The lens must be then delivered by rolling it out with a sharp spatula. If the capsule remains between the lips of the wound, it is safer to tie the conjunctival suture, wait a few seconds for pressure adjustment within the globe, and then carefully tease out the capsule remains.

For a shield, I much prefer an aluminum tea-strainer, which is shaped like a "doughboy's" steel helmet with wide brim. The brim is cut down with tin snips to suit, and yields better protection than orthodox shields.

It is also my routine to add sideboards to all cataract patients' beds at night unless they have a special nurse. In spite of this precaution, two elderly men have recently tried to get up at night and have fallen out of bed. One was a postcataract, the other a cyclodialysis. Both escaped eye injury, but the shock precipitated an attack of acute urinary retention. Neither had previously given any history of urinary difficulty.

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A. Ray Irvine, M. D. (1142 Roosevelt Building, Los Angeles).—Doctor McCool has given an excellent description of technique used in intracapsular extraction of cataracts. There is no doubt that the removal of the lens in capsule is the ideal when it can be done as safely as the extracapsular extraction.

The control of the lids by akinesia, the deep orbital injection, the bridle suture through the superior rectus, the use of closure sutures, or conjunctival bridge, and last but not least, the use of the lid retractor or its excellent substitute—sutures in the lid held by forceps, as described by Doctor McCool, are all safety measures. Even with these added safety procedures, it is not wise to persist in the delivery of the lens in capsule when difficulty is encountered in its delivery. The uppermost thought in the operator should always be the restoration of vision with the least possible complications.

Roderic O'Connor, M. D. (450 Sutter Street, San Francisco).—I am glad to learn that Doctor McCool has been converted to the upper-lid sutures. I have been using them for at least fifteen years. They give wonderful control not only at the operation, but at the subsequent dressings when, as lid lifters, they make even touching the eye unnecessary. Fastened to the cheek by adhesive, they hold the paralyzed lids in contact. When I was demonstrating the bridge operation in Chicago last January, many observers were converted to these tractor sutures.

In my further discussion I wish to emphasize three beliefs which many able ophthalmologists think are true:

1. That a patient is entitled to the safest operation that will give useful vision.

2. That there is seldom any real need to expose one to the added risks of any intracapsular operation.

3. That the incidence of vitreous loss is certainly greater in intracapsular methods, and that all investigations have proved the late, if not immediate, bad results of such losses.

I have never had the pleasure of seeing Doctor McCool do this operation, but I hear that he does it most skilfully. However, the worth of an operation is not proved by one's skill in doing it.

At times one hears this remark, "I think I'll try an . . . intracapsular operation" made just as casually as "I think I'll try a Manhattan." I would like to see a summary of cases so operated.

The advocates of intracapsular methods usually set forth several misleading arguments:

1. To the effect that an immature cataract can be removed safely only by an intracapsular method, thus avoiding an indefinite period of waiting for maturity. This, of course, is not true.

2. That secondary needling is required in most cases of extracapsular operation and that this is a dangerous procedure. This, likewise, is not true.

3. In the writings of most intracapsular operators are found statements which, by indirection, exaggerate the surgical skill and general ophthalmic ability of the intracapsular, and belittle that of the extracapsular operator.

To the effect that mechanical and visual results are far better after the intracapsular operation. My statistics will disprove both of these statements, and Doctor Pischel's discussion is even greater proof, especially concerning the visual results, because he excluded from consideration *all the bad results which occurred in the intracapsular series,* but did *not* exclude any from the intracapsular group.

Dr. Arnold Knapp, after four hundred operations by a technique similar to Doctor McCool's, is still of the opinion that it has the following disadvantages:

1. "The complications which are liable to occur and for which the operator must be prepared.

2. "The frequency of capsular ruptures (about 40 per cent).

3. "Cases must be selected.

4. "Suited only to tractable patients."

The question arises, why use a method that can be completed in only about 60 per cent of attempts, especially one that is "liable to complications"?

As actual proof of my contention, I wish to submit my results in fifty-four consecutive extractions by the undetached conjunctival bridge method after preliminary iridectomy as given, by invitation, before the Chicago Ophthalmological Society last January. Comparison was made with those given by Knapp in reporting his fourth series of one hundred extractions by a technique similar to McCool's.

Knapp had the following complications due, as he thought, to the method: hyphemia, 11; prolapse of iris, 4; loss of vitreous, 5; late prolapse of vitreous, 4; retinal detachment, 2; glaucoma, 5; deep keratitis with secondary glaucoma, 2; iridocyclitis, 1. Needless to say, many of these wound up with useless eyes.

My mishaps in fifty (in four of my fifty-four an intracapsular could not have been done): Loss of vitreous, 1 (only a tiny bead. Vision two years later was 20/16, and no pupillary distortion); partial iridodialysis due to jerking, 1 (final vision was 20/20 per cent); late subconjunctival vitreous protrusion, 1 (the patient, without my permission, on the twelfth day removed the mask and attended a wake. Something occurred, for at the next visit the protrusion was present. A pressure bandage flattened things out promptly, and for a time her vision was 20/30; but gradually membranes formed in the vitreous with reduction of sight, which at the last visit was 20/150. This case proves that undue disturbance of the vitreous, even though none be lost, is harmful. It was the only failure in the list, and at that, not due to the operation *as a type.*)

Comparison of the visual results:

Knapp listed those in seventy-eight, excluding those that had pathology or operative complications. Out of this number, fifty-one had 20/20 or better (66.8 per cent); twenty-seven had 20/30 (33.2 per cent). My series had thirty-nine similar cases, out of which thirty-three had 20/20 or better (84.6 per cent); four had 20/30 (10.3 per cent); one had 20/40; one had 20/50. Two of the six with less than 20/20 were illiterate and several of the other four could have been improved by needlings but, having good reading vision, were satisfied.

This comparison, in my opinion, proves my contentions as given at the beginning of the discussion.

When results by a relatively infrequent operator are so much superior to those by a frequent *and most expert one,* I think that the *credit,* therefore, must be *given* to the *type of operation used.*

A paragraph from Dr. J. M. Wheeler's talk on "Modern Surgery in Ophthalmology" for the Academy last year I think should be known and followed by everyone who hopes to do good ophthalmic surgery. "Here the principle that I want to emphasize is that of simplification of technique. Sutures should not be passed through eye structures unnecessarily; and surgical maneuvers should never be complicated if they can be kept simple. They should never be difficult if they can be made easy." This has been my own belief and practice since I first started surgery of the eye twenty-seven years ago.

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Doctors McCool and Dickey (Closing).—Doctor Horner's suggestion that the retro-orbital injection be given before the lids are blocked, in anticipation of a possible retrobulbar hemorrhage, may be a good one. However, I believe that if the plunger of the syringe is withdrawn slightly after the needle is in position there is little likelihood of the solution entering a vein, and the small amount of the solution injected should not cause any proptotis—certainly not enough to complicate the operation.

Doctor O'Connor is mistaken in assuming that I am converted to his method of upper-lid control. I am not. In cases such as the one shown in his illustration, the eye is obviously a sunken one with a very lax upper lid, and in these cases a single suture will afford ample opportunity for the necessary operative manipulation. However, in those bulging eyes, in which, more than all others, it is necessary to raise the entire tarsal plate from the globe, I believe that three points of traction are preferable to one or two.

The major portion of Doctor O'Connor's discussion is a criticism of the intracapsular, and a defense of the extracapsular operation for the extraction of senile cataract.

For those surgeons who have never performed an intracapsular operation and never intend to do so, either from choice or because they feel that it is too dangerous, my paper will have no appeal.

It dealt with certain points in technique applicable to the intracapsular operation, and was not a discussion of the relative merits of the two operations.

BODY MEASUREMENTS OF JAPANESE CHILDREN BORN IN AMERICA

By P. M. Suski, M.D.
Los Angeles

The author is frequently asked by American colleagues, what should be the height and weight of a Japanese child at a given age, but there is no satisfactory and positive answer available. The only answer would be that there is not much difference from the height and weight of white American children up to fifteen or sixteen years of age. This statement is based upon the annual measurements of Japanese children in Los Angeles for several years, and the comparison of these figures with American as well as Japanese standards. The children born in America of Japanese parents are found to surpass, between ages of seven and fifteen, Japanese children in Japan, by 7 per cent in stature, 20 per cent in weight, 9 per cent in total leg length, and 7 per cent in chest circumference.[1]

PURPOSE OF THE STUDY

The purpose of this paper is to present the measurements made of Japanese children born in America, including the stature, weight, sitting height, total leg length, chest circumference, and the Rohrer's index of the body build, which is the ratio of body weight in grams to the cube of the stature in centimeters. The sitting height, leg length and chest circumference are also given relative to the stature.

An attempt is made to prepare the standard for American born Japanese children in stature, weight and Rohrer's index by smoothing out the curves corresponding to figures thus far obtained. Further annual measurements will, of course, add to the number observed, and naturally the standards will undergo changes through corrections. But, at the present time, the tables of stature, weight and Rohrer's index thus obtained are useful in evaluating the measurements of individual Japanese children born in America.

CLINICAL MATERIAL USED IN THE STUDY

The standards are based on 2,232 measurements, many of them being of the same children observed over and over again at intervals of about a year, involving probably about 800 children of private Japanese schools in Los Angeles. These children were all born in America, mostly in Southern California, although a small percentage of them were born in other states and the Hawaiian Islands. Those born in Japan were excluded.

In order to eliminate the possibility that the cause of the superior height and weight of American-born Japanese children might be the nativity of parents in a locality producing large people, the inquiry has been made as to the home prefecture of parents.[2] They were found to have come from twenty-nine prefectures well scattered all over Japan, except the extreme north, where the natives are known to grow a little taller than the rest of the Japanese.

This series of measurements was started in three Japanese schools of Los Angeles in 1931, and followed annually at about the same time of the year (May-June), including 1934. Martin's anthropometer, consisting of a graduated rod, with a horizontal arm, fixed on a pedestal to stand straight on the floor, was used. The sitting height was obtained by measuring the height of the top of the head from the sitting surface, while the child was sitting with straight back and erect head. The leg length is intended to mean the height above the floor of the head of femur in standing position; but, as this measurement is not practicable, the formula of Martin's was used.[3] The method is to measure the height of the anterior superior spine of the ilium above the floor, and reduce therefrom 15 to 50 millimeters, according to the stature. Martin calls this measure the total leg length because it includes the feet.

CLASSIFICATION OF THE AGE GROUPS

In classifying the children into different age groups, the so-called nearest birthday system was used. The children from six years and six months to seven years and six months are classed under seven years, and so on with other ages. This must be borne in mind, and the proper allowance should be made when making comparison with results of other investigators, who may divide them into groups containing children from one birthday to the next, etc.

RELATIVE MEASUREMENTS

In stature, at about fifteen years of age, boys attain heights over 160 centimeters, while girls barely go over the 150-centimeter level after fourteen. In body weight, boys reach 54 kilograms at sixteen, and do not seem to continue the growth

Table 1.—*Standard Height and Weight for Japanese Children Born in America*

	Boys				Girls			
Age	Height		Weight		Height		Weight	
	Cm.	In.	Kg.	Lbs.	Cm.	In.	Kg.	Lbs.
5½-6½	112.6	44¼	19.6	43.0	111.2	43¾	18.8	41.5
6½-7½	116.2	45¾	21.4	47.5	115.4	45½	20.8	46.0
7½-8½	120.9	47½	23.6	52.0	119.8	47¼	22.9	50.5
8½-9½	125.7	49½	25.8	57.0	124.4	49	25.2	55.5
9½-10½	130.8	51½	28.6	63.0	129.8	51	27.9	61.5
10½-11½	136.2	53¾	32.3	71.5	135.8	53½	31.4	69.0
11½-12½	141.8	55¾	36.2	80.0	142.8	56¼	37.1	81.5
12½-13½	147.8	58¼	40.4	89.0	147.4	58	41.0	90.5
13½-14½	154.4	60¾	45.4	100.0	149.7	59	43.4	96.0
14½-15½	160.0	63	50.2	111.0	150.7	59¼	44.8	99.0
15½-16½	162.2	63¾	53.8	118.5	151.3	59½	45.9	101.0
16½-17½	162.6	64	55.8	123.0	151.9	59¾	46.6	103.0

TABLE 2.—*Rohrer's Index of the Body Build*
(Based on Arbitrarily Smoothed Curves)

Age	Boys	Girls
6	1390-1410	1380-1400
7	1360-1380	1350-1370
8	1330-1350	1320-1340
9	1310-1330	1290-1310
10	1280-1300	1270-1290
11	1260-1280	1250-1270
12	1240-1260	1250-1270
13	1230-1250	1270-1290
14	1230-1250	1290-1310
15	1240-1260	1300-1320
16	1260-1280	1310-1330
17	1280-1300	1320-1340
18	1300-1320	1330-1350
19	1310-1330	1340-1360
20	1310-1330	1340-1360

rate they had up to that age, while girls make the level of about 46 kilograms at fifteen, again a year earlier than boys, and the rate of growth is very slow after that. In the Rohrer's index, girls are lower than boys to the age of eleven, where they reach the lowest point; then they go up, keeping thereafter a decidedly higher level than boys. Boys reach the lowest point two to three years later than girls, and then go up, the lowest point being a little below that of girls.

In sitting height and leg length, boys make a gradual increase at a fairly uniform rate to fifteen years. Girls increase in leg length to twelve years and in sitting height to fourteen years, after which the rate of increase is markedly reduced. The increase in leg length is greater than that of sitting height, so that the curves cross at about the tenth year (if the curves of sitting height and leg length are compared); after which the leg length is always larger than the sitting height in boys. In girls, after the fourteenth year, the leg length becomes much smaller than the sitting height. The chest circumference in boys increases at a fairly uniform rate to the twelfth year, after which the rate is slightly increased for three or four years. The girls' curve is slightly below the boys' curve to the twelfth year, when it reaches the boys' level, and then the rate of increase is less until the fifteenth year. There is little change after that.

In the relative sitting height curves, boys and girls go down together until the twelfth year; then girls go up gradually, while boys continue to go down till they reach the fifteenth year, when they take an upturn. In the relative leg length, the boys and girls go up together to the twelfth year, then both go down, but the girls' curve goes down at a sharper angle. In the relative chest circumference, boys and girls alike take a downward curve to the eleventh year, then they go up, but girls are generally lower by 2 to 3 per cent at all ages.

THE STANDARDS FOR AMERICAN-BORN JAPANESE

The actual curves of the height, weight and Rohrer's index are more or less irregular, owing to the small number of children, especially in the two age extremes. It was thought desirable that these irregularities should be smoothed out, without altering the general direction and contour of curves. Tables 1 and 2 represent the figures of these new curves.

It is seen that girls surpass boys in height at the age of twelve, and in weight at the ages twelve and thirteen, respectively. Boys are at the peak of annual growth rate at the age of fourteen, both in height and weight, while in girls this occurs at the age of twelve. The annual growth rate gains slowly until the peak is reached in all cases, and then the decrease is rather rapid.

205½ North San Pedro Street.

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A SHIP SURGEON'S LOG[*]

By R. W. HOOKER, M.D.[†]

New York

"ALL visitors ashore, please!" The bugle sounds. Officers in trim uniforms take their stations. Stewards hustle belated hand baggage. A veritable bedlam of voices, kisses and tearful farewells, and sinuously the crowds file out and down the gangway waving back at the passengers that now line the rail.

THE SHIP IS ON ITS WAY

Meanwhile, from a retired position, the ship's surgeon is quietly but keenly sizing up the passengers with almost uncanny accuracy which mere observation, born of long experience, has taught him to do. It is the lull before the storm that breaks over the ship's Medical Department. Suddenly, "You are wanted in the hospital, sir!" "What," he muses, "we are not out of the narrows yet!" But hurries down to the hospital, just as they come lugging in a big brawny fellow from the engine rooms. A shoulder joint dislocation, and so rigid that we have to give ether to reduce it. Right here let me observe that of all the thousands of passengers who ask me innumerable questions, not one ever seems to think of the crew as a part of the ship surgeon's job. "Oh!" they say, "I never thought of that." One wonders what they do with their thinkers. We are carrying a crew of four hundred with a capacity of eight hundred passengers and only one doctor, one nurse and one hospital attendant. Yet somebody will be sure to ask him the first day, as he hurries forward to the fo'c'sle dispensary to attend a dozen men, "Why, is anybody sick, doctor?" Too busy to answer, he only nods, smiles politely and hurries on with the usual rejoinder fading on his ears, "I don't see anybody seasick around here." On smooth seas, about one passenger out of one hundred gets seasick. The big Leviathan used to carry about nine hundred crew with a capacity of several thousand passengers, two doctors, one nurse and two hospital attendants. The same things happen to people on board ship as on land—anything.

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[*] From the Medical Department of the Panama-Pacific Steamship Line, S. S. *Virginia*.

[†] Editor's Note.—During our return trip from the recent American Medical Association session at Atlantic City, we met Surgeon R. W. Hooker, and persuaded him to submit this interesting narrative to CALIFORNIA AND WESTERN MEDICINE. Out here on the West Coast, where the Pacific Ocean laps the shores of California, these medical stories of the sea should have a lure for many readers.

THE SHIP SURGEON'S MISCELLANEOUS DUTIES

It is a part of the doctor's duty, when he has finished his professional work for the day, to help entertain in the social hall, to introduce people and see that they have a good time, and sometimes conduct the divine services on Sunday. It not infrequently happens that certain people are committed to his care and special attention—old people, invalids, young people traveling alone, and children. We are always glad to have happy children aboard. In their rollicking games they make us happy.

RECITAL OF SOME EXPERIENCES

Some of our experiences are very amusing. As I write, there is on board an old gentleman. He has come all the way from the Hinterland with his long shiny black coat and funny little hat. Yesterday he appeared at the door of the hospital, and by signs gave me to understand that he wanted some medicine for his stomach. I reached for the "Sailors' Standard," and poured him out a good sized swig of something that looks like wine, but has a different effect. Something like the concoction of black walnut juice our mothers used to give us. He took a sip and made a wry face and spat, and went off shaking his head. An hour later he came back and handed me an empty vial, and smiled as if to say he had reconsidered. I gathered that he had figured what a chump he was for turning down something intended for his good. I then poured his vial half full of cascara sagrada before filling with the other liquid, and had an interpreter explain that it contained six doses instead of one. He went off chuckling to himself over the bargain he had made in the deal. Every time I see him now he smiles in friendly fashion.

* * *

We were running out of Balboa in rather heavy seas and it was past midnight. My hospital attendant came to awaken me, saying that a tourist passenger had tumbled down the companion way, and was bruised and bleeding from a scalp wound. I dressed hurriedly and went to the operating room. Behold! It was Etara, the man "Friday" to William A. Robinson, who had recently sailed around the world as "King" of a small yacht with only this South Sea Islander as a helper. Poor Friday had been lingering too long in some night rendezvous for sailors in Panama City. "Big ships, bah!" said he, and spat in the waste receptacle. "I hav' sail roun' worl' wit'out scratch, and now I fall down ladder big ship and go cuckoo," he continued with a show of disgust, as we stanched the blood and applied the dressing. A little wizened sailor, he was, typical of the cooks and deckhands of the thousands of small craft that go toiling over the rough and tumble of the seven seas, and into every nook and bight of isle and mainland. Superstitious to the limit, and never satisfied for long on land save for a bit o' grog, then back again to battle with the elements. As we try to fathom their intent and wanderings, we are reminded of the saying of Solomon: "There are three things which are too wonderful for me, yea, four things I know not: the way of an eagle in the air; the way of a serpent on a rock; the way of a ship in the midst of the sea; and the way of a man with a maid."

* * *

One night I stood leaning on the rail of the boat deck watching the flash, flash of the signal lights of a tramp steamer talking to us in passing. The conversation finished, our operator said, "Well, I must be on my way now; excuse my dust, please." Quickly the little dickens flashed back, "Oh yeah?" and went trudging on its lonely way, presently lost to sight over the horizon. All honor to these brave little tramps sailing fearlessly over the wild and stormy deep, bearing commerce to many lands.

It is to this class of ships who carry no doctors that we are called by S. O. S. to render treatment almost daily. I shall never forget one terribly stormy night, on my first voyage, off the West Indies where those frightful hurricanes make up, I was awakened and summoned to the radio room. "We are sorry to trouble you, Doctor, but there is a distress signal off our port bow about two hundred miles." It was a small Italian vessel whose master was trying to convey to me in a mixture of Italian and broken English the symptoms of his chief mate who was desperately ill. From my knowledge of Spanish I figured out and radioed to him what to do. I then sat down to listen for awhile, for I, too, had learned the code. The static was terrible that stormy night, but soon the answer came sputtering in, and this was what he said. "Dee seek he ees better, receev' our tanks. Gud bye, sir, God speed you on your way." An example of the old time courtesy of the sea. Months afterwards I saw that old tramp lying in port, in Brazil, and went aboard her to shake hands with the grizzled old Captain and his faithful mate whom I had treated by radio.

* * *

I must not forget to mention that we picked up the three castaways who were stranded so long on Cocos Island off the Costa Rican coast and brought them into New York. Cocos Island lies about six hundred miles to the southwest of Costa Rica. It is the legendary depository for the hidden treasures left by the old buccaneers of the romantic days of the Spanish Main. Since those far off days it has been the quest of many a voyage in the hope that they might find the fabulous wealth supposed to be buried there. Very few ever come back to tell the story of their strange wanderings and intense suffering while under the spell of that lonely island. Off the beaten paths of ocean travel, one stands a poor show of ever being found when stranded there. It was mere chance that sent a portion of our naval fleet in its maneuvers off Balboa roads within reach of the island on this recent occasion, when they picked up these three poor fellows who had lost their small boat with all supplies and left them naked and starving for more than six months, save for cocoanuts and whatever insect life they might find upon the sands. They were all emaciated and bedraggled, and well nigh starved to death, and it fell to my lot to nurse them back to health and strength. Their story was told graphically in a recent magazine. I mention them to show some of the interesting things we are called upon to do.

* * *

Those were tense moments that afternoon on the steamship *President X,* as the passengers stood around in groups and at the taffrail of the after deck talking in undertones, and watching for the first sign of news from the operating room. An anxious mother was traveling with two little boys, while the father was on the other side of the ocean.

She had appeared at the doctor's consulting room with the older at the five o'clock clinic, his face all drawn with pain and his little body bent almost double. No sooner than the doctor had looked at him he recognized signs of appendicitis, and upon a closer examination he believed it to be gangrenous. It was not easy to advise a mother traveling under those circumstances of the seriousness of the situation, and only one who has gone through such an experience can understand her feelings and responsibility. But no time must be lost; it was a matter of life or death, as the appendix would have ruptured in a few hours.

So when her consent was given in tears, the Captain was advised to stand by to slow down or stop the ship when all was in readiness for the operation. Within less than an hour the big engines ceased to throb and the ship lay motionless upon a quiet sea. The operation was hurriedly done, removing a perfectly gangrenous appendix six inches long from a child of eight.

When I saw him in the New York hospital on the morning of our return sailing, the little fellow lay smiling from his pillow, and looking up at me, he said, "Oh yes, you are my doctor from the ship." That was recompense enough for me, for truly as the father had said to me on arrival: "Doctor, there are some things which cannot be valued in money," and then he choked up.

* * *

"What do you say, Pop?" Pop only grins and takes a long pull on his pipe, for he has had a good breakfast, and sat down to smoke in peace and contentment. Pop was a mental deportee, one of the many we are called upon to take over on our voyage east bound. Let me say for them that not many among them ever give us any trouble. We keep them in our hospital under lock, sometimes a half dozen, until we get well out to sea. They seem to get very docile, and come to like the doctor and attendants. Then we open the doors and give them more liberty. We can see them peering out of the wards like monkeys in the Zoölogical Gardens in Buenos Aires, or the Hagenbeck grounds in Hamburg, and chuckling over our treatments for other patients. Then we let them out on deck under guard. We become very much attached to them. When they leave us for their homes in the interior of Europe we wonder if the people will be kind to them as we have tried to be.

Poor old Pop became very ill one night, and when I got to him he was unconscious and frothing at the mouth. It was a case of retention and it took us a long time to relieve him. In fact, he was very weak when he left us in Hamburg going to far away Ukrania. He looked so old and sick as he hobbled away, and we turned our backs to hide our tears.

* * *

Romance! That's what a girl likes. I shall never forget the look of appeal on Mary's face that morning when I passed her on the promenade deck. Mary was not her name, but we will call her that. What a beautiful girl she was, so young and unacquainted with the ways of the world. She was traveling alone, all the way to Rio de Janeiro to marry the man she loved. "John" was a civil engineer engaged in the building of some big dam. She had been terribly seasick for several days, and had been constantly under my watch, but on that particular morning she seemed frightened out of her wits and was crouching there in her deck chair and looked for all the world like some beautiful fawn, her eyes big with fear and tender appeal. Instinctively I answered her signal of distress, and sat down by her while she poured out her story with tears in her voice. Two brazen world travelers—they are on every ship—had taken complete possession of her and ordered a table for three in the dining room. She begged to sit at my table, and it so happened I had a vacant seat. So I introduced her to the lovely table companions who had been assigned to me, and we had a very delightful voyage all the way. On arrival in Rio I was busy for a while with the port officers, but on coming out into the lobby I spied Mary clinging to her John, and looking radiant with happiness. "Mary, is this John?" said I. "Oh yes," she said, fidgeting around him, while John was looking down at the floor all teased but proud as Lucifer. "But I don't know what to say," she burst out. "Don't say anything," I said, "just kiss him." Then I made it convenient to look the other way. Nobody was paying any attention anyway, all in a hub-bub saying howdy-do? and good-bye! to their own people. "Good-bye, Mary, good-bye, John." "Good-bye, Doctor," they answered back as they went down the gangway, hand in hand. Out into the streets of that beautiful city. Out into its glorious parks and gardens, a veritable paradise on earth. Out into the sunshine of life, just as all others have gone down through the ages since the Garden of Eden, to enjoy their honeymoon! I stood looking on. . . .

* * *

On one of my runs to South America, it fell to my lot to treat a case of myeloid leukemia, a disease so rare that many doctors never have one in a lifetime's practice. It was the only case I ever saw. The patient was at the head of a foreign legation which propriety forbids mentioning. Been in Washington seventeen years, and they were trying to get him home to die. Just my luck to take him on my run. Our competing company had refused to take him, as it was required that he be delivered dead or alive. The day before sailing our manager called me and asked if I would undertake it, and, being of an adventurous nature, I said, yes. Now, what was I to do? I didn't know how to embalm, so I rushed up to one of the elite mortuaries on Riverside and the head embalmer told me he could teach me in a short while so I could get by at least. So I went to school, one night! I worked frantically all night and all the next day, and came out with six bodies to my credit; and could take care of my own end results!

Just as I reported for duty the next afternoon they brought my patient on board and placed him in the most luxurious suite we had. He had been brought from Washington on a special train. When I stepped into his cabin in uniform and stood at attention, he asked his wife, "Á quien tenemos aquí?" (Whom have we here?) Quick as a flash I answered, "El médico del vapor, señor, servidor de usted." (The ship's surgeon, sir, at your orders.) That's the way you have to say it in Spanish. Seventeen long days by fast steamer to his home and the company did not expect him to live five days. Surely I will be pardoned if I say that I lost no time. I played my trump without waiting. Our manager had said that if there was anything I needed, to spare no expense; he would put it on board for me. I had, therefore, provided myself with two of the very best tonics, both well known to the medical profession; not in the hope of saving his life, but simply to prolong it, if possible, to his home port. After a few doses I heard him say to his wife, "I feel better, something is getting a grip on me."

Then the fight was on in earnest. The nurse and I took turns just as the officers on watch. Stimulants, tonics, ice-packs, everything we could think of to give comfort and stay the ravages against the fighting army of white blood corpuscles. Already 150,000 (the normal count is from 8,000 to 12,000), the count steadily arose to 1,000,000. He was literally burning up alive!

This was the most thrilling experience I ever had in a fight with that grim monster to whom we must all inevitably yield. There were on board bankers, statesmen and presidents of big business. The eyes of the medical profession of the capitals of two great nations were on one poor little ship doctor to see what he would do. A daily bulletin must be broadcast. At Rio de Janeiro the ambassadors of three nations came aboard to pay their respects. The substituting ambassador passed us on the high seas and saluted. Need I describe my feelings?

We were steaming out of Santos, Brazil, when he died, fifteen days out and only three days from home! I choked down my feelings and set myself to the grim task of embalming. It took me four hours to do the job to my satisfaction, for I had taken him the Tutankamen way, and his people seemed pleased with the way he looked. Our officers came down off the bridge and acted as pall-bearers, and we let him lie in state in our lounge, the casket draped in his national colors. On arrival he was received in military pomp, the President, himself, attending.

AFTERTHOUGHTS

"Doctor, do you like to work on a ship?"

"Yes, why not?"

"Doesn't it get awfully monotonous?"

"No, we are constantly going. In the course of time we get to all the ports of the world. Then the personnel changes with every voyage. Sooner or later we meet the leading celebrities of all lands. I have enjoyed this close personal touch in a very pleasant way with so many nice people whom I never would have known otherwise."

It is our privilege to treat all kinds of people, from the humblest immigrant to the world's most famous characters, Hollywood celebrities, New York's high-powered business men, senators, ambassadors, premiers and world conference delegates are among our patients. In fact, it so happened recently that the Secretary of State of the United States with his entire committee and secretaries honored us by traveling on our ship en route to the London Economic Conference. He graciously stood with the doctor for a photograph, which is prized as an invaluable possession.

* * *

As to monotony, what is more monotonous than a doctor's life on shore? From bedside to office, office to hospital, day and night in a ceaseless round, year in and year out, with very little time for vacation. It is like being chained to one's oars forever.

And then, if I can do any good to this worldwide clientele, thousands of ships that carry no doctors but reach us by radio, multitudes of passengers of all kinds and nationalities, our own crews of sturdy fellows who happen to all sorts of accidents—if I can do any good, I say, with kind sympathetic treatment, with a happy smile and a cheerful word, as I go on my way, I shall not have lived in vain.

Steamship *Virginia*, Panama-Pacific S. S. Line.

TREATMENT OF LACERATED SOFT PARTS

By Edmund Butler, M.D.
San Francisco

Discussion *by Clinton D. Collins, M.D., Fresno; Lane Falk, M.D., Eureka; Dudley V. Saeltzer, Jr., M.D., Sacramento.*

THE character and extent of the debridement in lacerated wounds is influenced by the following factors:

1. History of the accident. Special emphasis on the injuring forces, the location of the accident and probable contamination of the injuring instrument.

2. Careful examination of the clothing, as to missing portions, rents and tears, in the region of the wound.

3. Past history of the individual, especially inquiring into previous infections and any lack of resistance to infection.

4. The extent and number of the injuries, and the blood supply to the part.

5. The condition of the patient as regards shock. Amputations may be delayed until general condition improves.

6. Condition under which you rendered treatment, as to the presence of hospital and proper equipment. First aid in all of its refinement may be given in a modern hospital; and only hemorrhage control, splinting, and a simple protective dressing should be carried out along the highway.

AIM IN TREATMENT

Our desires in the treatment of all wounds is primary healing, but there are three main factors tending to interfere: The most important is the presence in the wound of bacteria-bearing foreign material. The next is the presence in the wound of devitalized tissue. And third, there is the introduction of pathogenic bacteria into the wounds by the injuring instrument.

PROCEDURES IN TREATMENT

The great problem, therefore, is: Are we able to perform the necessary debridement and soft-tissue repair without introducing more bacteria, or traumatizing tissue, so that the ever-present skin flora may be activated? What do we hope to have following our repair? A wound free of foreign material, devitalized tissue, and bacteria? The simplest procedure to relieve the wound of these insulting foreigners is most desirable. The one condition that so often excites the patient, and frequently befuddles the surgeon, is hemorrhage. There are just two things that sometimes come into the mind of physicians when confronted with the lacerated, bleeding wound: first, the control of bleeding, and second, the suturing of the skin, often overlooking severed tendons and severed nerves. Hemorrhage must be controlled, and if unable to make sufficient pressure with sterile gauze directly over the wound, the tourniquet, preferably a blood pressure apparatus cuff, should be applied. A careful examination is now made for cut tendons and nerves. This finished, the skin adjacent to the wound (the immediate wound being covered with gauze) is prepared by shaving, cleansing with ether or benzine, washing with alcohol and painting with any of the efficient skin antiseptics. The edge of the gauze is now raised sufficiently to expose just the margin of the skin on one side of the wound, and this remaining skin is prepared in the same manner. The clean skin is now covered with a piece of fresh gauze, and a similar preparation of the other skin margin is carried out. We are now confronted with the surgically prepared skin field up to the margin of the wound. The immediate edges of the skin are excised with a sharp knife, the wound margins are retracted and elevated, and the wound is irrigated with peroxid and sterile water, 1 to 5 being of sufficient strength. The removal of clots and hair, and particles of clothing may be aided by sponging with a small sponge mounted on a Mayo clamp. Continue the irrigation until all regions of the wound have been reached, occasionally washing away the froth with sterile saline solution, to inspect the depths of the wound. Look for foreign bodies, soft tissues impregnated with dirt and bits of devitalized soft parts. It may be necessary to irrigate many times before all foreign material has been removed. When the extent of the injury is ascertained, explore the entire wound with the gloved finger. Local anesthesia will be necessary. The tourniquet is gently loosened, and bleeding vessels are sutured if possible, and otherwise clamped and ligated. The cut end of the vessel is usually seen and is secured without injury to near-by veins or nerves. Such injury nearly always occurs when diving into a bleeding wound, and blindly attempting to clamp vessels.

OTHER FACTORS TO BE CONSIDERED

Now is the time the decision has to be made as to:

1. Immediate repair of tendons or nerves.

2. Whether only the skin is to be closed, and if infection does not take place, secondary repair to be made later.

3. Whether the wound is to be packed and allowed to heal by granulations. If you are reasonably careful in your mechanical cleansing, and it has been possible to remove all gross contamination, immediate repair is performed. Fine silk on small round needles is used for the approximation of nerves, and heavy braided silk for tendons. As each tendon end is located, the suture being placed in such a way as to leave the two ends of the suture protruding from the cut end of the tendon, all further traction is made on the suture, and if the tendon retracts within the sheath no difficulty is encountered in the relocation of the tendon. After all sutures have been placed in all located cut tendon ends, the patient may be asked to make movements, aiding in the identification of each individual tendon. It is not uncommon in the volar surface of the wrist to suture the cut end of the median nerve to a tendon. Kanaval mentions this error repeatedly. If possible, it is well to repair the rent in the sheath of the tendons with fine silk or fine catgut. It is well to place the extremity in such a position that the wound in the tendons and the wound in the sheath will be in different planes.

SPECIAL MEASURES

There are a few points in the technique of locating tendons which it may be well to mention. Sometimes the wound has to be extended in the direction of the tendons. Bunnell makes a small incision proximal to the wound, locates the tendon, and pushes it through to the original wound. Usually approximation of the origin and insertion of the muscle, as in flexing the elbow and the wrist and the fingers, is sufficient to cause the cut ends of the tendon to protrude. Squeezing the belly of the muscle may produce sufficient elongation to push the tendon out of the wound. Tight bandaging of the forearm, beginning at the elbow, may be required to help find cut tendons. A slender Allis clamp, such as that designed by Judd for common duct surgery, may be passed into the sheath and grasp the cut tendon and help with its delivery, always remembering to be as gentle and atraumatic as possible with all soft parts. Placing the suture immediately on location of the tendon does away with much handling and crushing. The annular ligament or fascia may be approximated with fine silk or fine chromic gut. I prefer to use interrupted fine silk in the skin. A light plaster dressing or molded splint, relieving the tension on the muscles and tendons, is necessary. The general condition of the patient must be watched: he should be allowed a reasonable diet, a moderate use of alcohol and tobacco, and necessary regulation of the bowels and a mild sedative to insure sleep.

The wounds are always dressed with compresses of glycerin and alcohol. There is at times more or less induration of the wound and considerable rise in temperature. This does not call for opening of the wound or blind probing for purulent infection. A reasonable delay is often rewarded by the disappearance of the swelling. After suppuration does occur, free drainage must be instituted, and occasionally fair functional results are had in the presence of low grade infection, suppurative in type.

Passive motion should be instituted following repair and continued daily. Five to seven weeks, depending upon the condition of the patient and the blood supply of the part, are required for union of the tendon.

490 Post Street.

DISCUSSION

Clinton D. Collins, M. D. (Physicians' Building, Fresno).—The principles outlined by Doctor Butler in handling lacerated soft parts are undoubtedly sound and should serve as a standard, or as nearly so as such surgical treatment can be standardized.

The time element is a very important one. Most patients now come directly to hospitals, or they can be removed there within a short time after the injury occurs.

Unless there is definite contraindication, the repairs should be made immediately. Even though the surgeon cannot be sure of a clean wound, a large majority will repair by primary healing. If suppuration does occur, the gap between severed tissues is lessened and secondary repair is easier.

It is usually better to remove soiled or devitalized tissue with a sharp knife than to try to scrub it clean.

The three important factors brought out in this paper, it seems to me, are:

1. Immediate surgical repair should be done in most cases.
2. There must be sufficient debridement of damaged tissue.
3. Accurate approximation of all severed tissues is necessary for restoration of function, as well as cosmetic results.

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Lane Falk, M. D. (First National Bank Building, Eureka).—There is little that I can add to the subject under discussion, except to advise the reader to reread Doctor Butler's article several times; it will come in handy in the daily work of the general surgeon. I would like to reëmphasize and add some of the following points:

1. Remember your anti-tetanus serum in these cases.
2. All lacerated and contused wounds are infected. Treat them as such.
3. After the primary application, use antiseptics sparingly, and debridement primarily as little and gently as possible. It is surprising that what appears to be hopelessly devitalized tissue at the onset, revitalizes itself in forty-eight hours. If the tissue does not appear to be coming back in forty-eight hours, it then can be trimmed off with little or no pain. It has been my experience that ordinary warm saline irrigations, and keeping the parts at absolute rest, by splints, etc., as well as keeping the area dry by means of screen-elevated protectors, or wire elevators, save tissue and prevent infection. Continuous wet dressings devitalize tissue. Intermittent, hot boric compresses, such as one hour on and four hours off, help to bring back the blood supply and clean up tissue.
4. Control hemorrhage while working, which allows for perfect vision; and see that all parts are thoroughly dry after working. Quite often subcutaneous hematomas can be aspirated and controlled by a pressure dressing, as a rubber sponge is incorporated in the dressing, and an ace bandage is used to give pressure.
5. I feel that regional nerve blocks, *e. g.*, brachial plexes, caudal, spinal or gas is preferable to direct local infiltration in these cases. It is quite obvious that injecting a fluid into infected spaces forces material into new channels. It is highly important to keep these cases comfortable afterwards with sedatives.
6. Whether to repair nerves or tendons primarily in these cases is a problem. If a repair is chanced primarily, I feel that chromic gut 00 should be used; for if a slough does occur one does not see pieces of silk coming forever. Of course, in clean cases silk is advisable. It is particularly important to remember to splint these cases with moulded plaster splints, in the hyper relaxed positions after repairs, and to apply the splint so that the part can be exposed with ease.
7. No tissue tension should be constantly ringing through one's ears in the closure of contused wounds, otherwise needless destruction of tissue will result.
8. It is highly important to explain to the patient these injuries: that infection is already present, and that nothing "got infected" as the patient will say later. He should have explained to him the reactions that follow administration of serum, *e. g.*, tetanus, and that nerve and tendon unions are often troublesome, that physiotherapy will be needed, and long drawn-out observation periods are necessary.

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Dudley V. Saeltzer, Jr., M. D. (724 Medico-Dental Building, Sacramento).—After observation of some of his many cases, I am led to believe that Doctor Butler has demonstrated uncompromisingly the effectiveness of early, thorough, mechanical cleansing of lacerated wounds. The emphasis should lie on early and extensive debridement, thorough exploration for foreign material and necrotic tissue, and copious irrigation to wash contaminants away. For this purpose literally gallons of sterile salt or weak peroxid solution are needed. Whether strong antiseptics are desirable is widely disputed. In my mind this dispute is irrelevant because, in such hands as Doctor Butler's, the use of non-antiseptic fluids has proved adequate. The principal virtue of peroxid solution is the manner in which its many bubbles suspend small contaminating particles so that they can be washed away. In addition, peroxid colors viable muscle bright red, while severely traumatized tissue remains darker in color. This is of some aid in identifying tissue that should be excised.

Doctor Butler mentions the danger of estimating the extent of injury too conservatively. Certainly, in most lacerations of the hand or wrist thorough exploration for nerve or tendon injuries is indicated. It is surprising how few patients coöperate well enough so that external examination can reveal all of the damage found during later exploration. This tendency toward underestimation of severity of injury also appears where there are found crushing and tearing accompanying simple laceration. In such cases the relatively small skin wound may cover extensive areas of traumatized, contaminated muscle. In all such instances, the skin wound should be enlarged to any extent required so that all deeper areas can be explored, debridement done and cleansing effected.

Another point: it has been my experience that a single prophylactic dose of tetanus antiserum may be insufficient. This dose should be repeated in two weeks. The reason is that one may find the wound contaminated with tetanus bacilli early, although symptoms do not appear until later when the effect of the primary dose has worn off. Furthermore, the conventional dose of polyvalent gas bacillus antiserum is not large enough. When the injury warrants administration of anaerobic antiserum, a much larger primary dose should be given (at least 10,000 units of the B. Welchii fraction) for prophylaxis.

The ideal in these cases is primary suture resulting in primary healing without infection. This can be accomplished in most cases where there is enough untraumatized skin to close the wound comfortably; provided, of course, that they are treated early and adequately. When the loss of tissue is so great that primary suture is impossible, or when the wound is so old that suture is undesirable, then one should rely on some form of continuous antisepsis, such as the method of Carral and Dakin.

POLIOMYELITIS—THE LOS ANGELES EPIDEMIC OF 1934*

By R. W. MEALS, M.D.
VERNON F. HAUSER, M.D.
AND
ALBERT G. BOWER, M.D.
Los Angeles

DISCUSSION *by Frederick Tice, M.D., Chicago, Illinois; Archibald L. Hoyne, M.D., Chicago, Illinois.*

II†

CONVALESCENCE

CONVALESCENCE was rapid and complete in a majority of cases. In others it was very slow. Although, on the average, the cases were very mild, the treachery of the disease was outstanding, some cases suffering repeated relapses, with painful muscle spasms, long after they were apparently over the acute stage and convalescing. So striking was the latter phenomenon, and so severe were the systemic symptoms, as to suggest reinfection from some obscure focus within the body. Two boys made apparent recoveries from bulbar infection involving the nuclei of the ninth and eleventh nerves, but died suddenly with more extensive medullary reinfection. One nurse recovered from a typical, mild attack, and after a month's convalescence at her home was rushed back to the hospital and a respirator, with a sudden relapse involving the intercostal and phrenic nerves. Equally striking was the rapid and apparently complete recovery of some cases which appeared early to be doomed to extensive residual paralysis. Although all showed some degree of general weakness at the time of discharge, due perhaps to the enforced idleness and bed rest, only 20 per cent have shown any paralysis or paresis to date. Many of these will no doubt ultimately recover. Remote sequellae of a psychasthenic or neurasthenic nature were more common than previously noted. Some patients complained of insomnia, or suffered from nightmare. Others were consciously irritable or emotionally unstable, and some complained of mental fatiguability with poor power of concentration. The syndrome of neurocirculatory asthenia was not uncommon, with symptoms of a sudden weakness, vertigo, palpitation and breathlessness, probably due to sudden lowering of vascular tension incident to sympathetic nervous system dysfunction. Localized, recurrent edema was further evidence of vasomotor (sympathetic) instability. Trophic disturbances were seen which indicated vascular or endocrine changes, but which were probably due to primary sympathetic system involvement. These included excessive growth of the nails on one hand, with retarded growth on the other; hypertrichosis of the legs only, on a girl previously without hair on her extremities; and the case of a man showing loss of pigment of the hair of one involved extremity and not of the other. Herpes was a common sequel, probably due, as in other types, to posterior horn-cell infection, but possibly due to vasomotor phenomena.

LABORATORY FINDINGS

Of the laboratory findings, only the spinal fluids need be mentioned. The dictum that a preparalytic diagnosis is made on a "healthy suspicion confirmed by spinal fluid findings," is no longer tenable. We reported, in 1930,[1] 12.6 per cent negative spinal fluids in neurologically proved cases. We also learned that a still larger percentage were negative if done too early. This year we withheld punctures until the first neurological signs appeared, and repeated them as indicated by the clinical progress of the case. Approximately 33 per cent of neurologically positive cases showed negative spinal fluids at all times. Others showed cell counts under ten, but with significant increase in pressure or positive precipitation in the colloidal-benzoin or colloidal gold tests. Cells, when present, were predominantly lymphocytes. In 1930 we thought that the colloidal benzoin "curve" was characteristic in poliomyelitis, and could be differentiated from that of tuberculous meningo-encephalitis. Both diseases cause positive precipitations, but the type of curve may be similar in each. Poliomyelitis tends to show a reaction in the middle tubes, and tuberculous disease in the last ten tubes; but the two overlap too often to permit much differential value being placed on the test. In epidemic encephalitis the test is characteristically negative. In this epidemic it was negative in 51 per cent of neurologically positive cases of poliomyelitis, some of which showed other spinal fluid changes. The colloidal-gold test, on the other hand, was positive in fifty-nine out of sixty cases. Apparently, it is a more reliable test. In 46 per cent of cases, there was no increase in spinal fluid pressure. An interesting observation in this connection was the sudden relief from headache or abdominal pain afforded by spinal puncture, even *in the absence of increased intrathecal pressure*. Our explanation is the probable relief of cellular edema about the posterior horn-cells, or nerve roots, occasioned by shifting of balanced osmotic pressures between the spinal fluid and the perineural circulation or lymph. The shift being toward the spinal canal would tend to reduce capillary tension; and hence edema, even though the osmotic balance between the two systems had been established at a low level.

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* From the Los Angeles County Hospital.

† Part I of this article was printed in the August issue of CALIFORNIA AND WESTERN MEDICINE, page 123.

DIAGNOSIS

Diagnosis was difficult because of the mildness of the disease, and the large number of suspected cases which never developed conclusive findings. Criteria for positive diagnosis were definite neurological findings, or marked cellular or pressure changes within the spinal canal. The presence of a "positive" colloidal-benzoin or colloidal-gold test, without other spinal fluid changes or neurological findings, was not considered significant nor alone diagnostic. The frequent findings of marked muscle tenderness, with pain on motion, positive "spine sign," intact reflexes, mild systemic reactions, negative spinal fluid changes, and rapid recovery without sequellae, indicated an anatomical diagnosis of "radiculitis" rather than "poliomyelitis."

The intentional publicity given the epidemic by the health departments resulted in an aroused and coöperative population, both lay and professional. This poliomyelitis "consciousness," we feel, was responsible for its early check, for mild cases were recognized which might otherwise have been mistaken for respiratory or gastro-intestinal infections; and many suspects who were potential sources of contagion were isolated.

This institution serves as the only hospital diagnostic and treatment center for this community of 2,500,000 inhabitants, and all manner of cases were seen for diagnosis. It is extremely interesting to note the wide range of conditions which were justifiably observed for possible poliomyelitis, but which proved ultimately to be something else. We were interested in the long list of mistaken diagnoses reported by Brahdy and Lenarsky.[11] but found, on checking our own experiences, that we had seen in this and other epidemics fifty-seven different conditions suspected of being poliomyelitis. Our list parallels theirs, with the exception of cases of serum sickness, epiphysitis, synovitis, cellulitis, and purpura, which we have not seen confused with poliomyelitis. One case of serum sickness, following prophylactic tetanus antitoxin, developed such severe meningeal symptoms with trismus that we suspected a contamination of the serum, but considered poliomyelitis only remotely and because of its being epidemic. The invasion stage of many acute infections frequently simulates that of poliomyelitis, and errors are common and justifiable. Some of those which were not included in the series above mentioned will bear recital. A few were coincidental infections.

REPORT OF CASES

Case 1.—A girl of thirty, sent in as "poliomyelitis," complained of weakness of both legs and paresthesiae. Onset had been gradual, without systemic symptoms and without pain. Sphincters were intact. History revealed an attack of "infantile paralysis" involving both legs at the age of fifteen, with residual weakness. Examination disclosed definite sensory disturbances over the area supplied by the third and fourth lumbar segments, with maximum sensory phenomena contralateral to the side of greatest weakness. The paralysis was of the spastic type with exaggerated reflexes. A diagnosis was made of gliosis of the cord, probably an end-result of a former infectious transverse myelitis.

* * *

Case 2.—A girl of twelve was admitted with fever, headache, pain and weakness of the back and legs, constipation with distention of the abdomen, nausea and slight vomiting, and retention of urine. Onset three days prior with sudden pain in the back following jumping and landing heavily on her heels. She had been at school the day after onset, but had been in bed the twenty-four hours immediately preceding admission. Past history irrelevant except for repeated attacks of tonsillitis, relieved by tonsillectomy four years prior. Patient athletic and in excellent health at time of onset. Examination revealed a partial loss of sensation over the entire surface of both lower extremities, diminished reflexes and almost complete loss of motor power. Abdomen and bladder were distended. A diagnosis was made of an acute infectious transverse myelitis, without obvious source of infection. The following day she developed a loss of sphincter control, with some involvement of the upper extremities and beginning difficulty of breathing. The infection spread steadily upward, and she died suddenly a week after onset. The sensorium remained clear to the end. The postmortem findings were most interesting. Small, encapsulated abscesses, about two and one-half centimeters in diameter, were found extrapleurally at the apex of each lung, apparently the result of previous cervical adenopathy secondary to tonsillitis. The cervical and mediastinal glands were not enlarged. The abscesses contained thick, yellow-green pus and staphylococci. The one on the left had established a fistulous tract, ***extrapleurally,*** along the thoracic spine, and had set up an osteomyelitis of the fifth dorsal vertebra, penetrating it and descending, ***extradurally,*** to the lumbar level. At this point the dura had been penetrated, and a myelitis established. The ascent up the cord was inevitable.

* * *

Cases 3, 4, 5.—Three cases of acute septicemia were seen as poliomyelitis in the invasion stage. One was of staphylococcus origin from a furnicle on the arm, suffered one month prior to the onset of systemic symptoms. The first, of multiple abscesses developed in the left perimetrium, setting up a lumbosacral radiculitis with severe pain and weakness of the left leg. A second case developed from a streptococcus infection of the throat, which showed meningeal symptoms. The third was of mastoid origin, again with meningeal symptoms.

* * *

Case 6. — A woman of forty-five was sent in as "polio-encephalitis," with history of upper respiratory infection of increasing severity of three days' duration, with fever, severe frontal headache, blurred vision, mental confusion, stiffness of the neck and vomiting. There were marked nasal congestion, pus on the pharynx, apparently coming from above, tenderness over the antra, and marked retinitis. Spinal puncture was negative. A diagnosis was made of pansinusitis with posterior extension to the basal meninges and brain. Shrinkage of the nasal and posterior pharyngeal mucous membranes effected an ultimate recovery.

Our experiences with meningo-encephalitis, following acute recrudescences of chronic sphenoid and ethmoid infections, has not been gratifying. Radical surgery has saved a few, but a majority have developed a basal osteomyelitis, and when the central nervous system is invaded they are beyond help.

* * *

Case 7.—A two-year-old colored baby was sent in as polio-encephalitis because of deep coma and muscular twitchings. Both eardrums were red and drained pus on paracentesis. Both disks were choked, and pupils dilated and fixed. Other cranial nerve paralyses were not evident. The right arm was spastic. A diagnosis was made of bilateral otitis media, with secondary suppurative encephalitis and probable abscess of left basilar area. Tuberculous meningo-encephalitis was considered, but ruled out because of the normal sugar and chlorid content of the spinal fluid; which, however, showed a pleocytosis and was under increased pressure. Postmortem examination showed a generalized miliary tuberculosis, with multiple tuberculoma of the meninges and brain, one of them 15 millimeters in diameter, in the left internal capsule.

* * *

Case 8.—One nurse developed fever, headache, and generalized pains. There were no localizing signs, but poliomyelitis was considered because of her having worked with very acute cases. She was overworked, and exhausted. On the seventh day hilar râles were noted, and the subsequent physical and roentgenological findings pointed to a flare-up of an old pulmonary tuberculosis.

* * *

Cases 9, 10, 11.—Three cases were seen which were obviously encephalitis, but which we finally diagnosed as of the epidemic, and not the poliomyelitis type, because of the protracted course, the mental state during and after the acute stage, and the colloidal-benzoin test of the spinal fluid.

* * *

Case 12.—A boy of nine suffered headache, vertigo, and vomiting while at school. The next day he had improved, but on the day after he suffered more severe headache, muscle twitchings, and, later, loss of consciousness. He was sent in as "possible poliomyelitis." Questioning of the parents revealed a history of repeated headaches and vertigo in the past. Examination disclosed a completely comatose boy, slightly febrile, spastic, hyperactive reflexes, stiff neck, bilateral choked disks and spinal fluid under increased pressure, but with slight pleocytosis and no change in sugar or chlorid content. After spinal puncture he became rational and coöperative; said he had a headache and was dizzy, but otherwise felt improved. Cerebellar tests were negative. His vision was not impaired. Twenty-four hours later he was again comatose and after puncture was again relieved. "Brain tumor" was diagnosed, but not localized. At necropsy an hemangioma was found in the cerebellum.

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Case 13.—Another hemangioma of the cerebellum was found ruptured in a girl of eighteen, who suffered sudden pain in the head following high school graduating exercises. She was rushed into the hospital in coma and cyanotic, and died shortly after admission.

* * *

Case 14.—Another puzzling cerebral case was that of a woman of forty-five, sent in as "polio-encephalitis," with history of headache of several days' duration, mental dullness and, finally, unconsciousness. When seen she was in a very deep coma, completely flaccid, skin moist, pulse slow and respirations rapid, blood pressure 180/110, eyeballs soft, pupils dilated, fundi normal, reflexes all absent. Urine was albuminous, and full of sugar and casts. Blood chemistry showed N. P. N. of 38 milligrams, sugar of 357 milligrams, per 100 cubic centimeters of whole blood, and CO$_2$ combining power of twenty-four volumes per cent. Spinal fluid was xanthochromic and under 220 millimeters of pressure. Diagnosis was made of "diabetic coma," with the probable pathology including chronic cerebral, renal, and hepatic disease, and recent cerebral hemorrhage. However, the complete flaccidity and absent reflexes, with no focal signs whatsoever, were puzzling. The hyperglycemia was "diabetes" of some form; the coma was not so obviously due entirely to the ketonemia. The slow pulse and rapid respiration were indicative of medullary stimulation rather than lowered hydrogen ion concentration of the blood.

Cerebral hemorrhage with pituitary hyperglycemia was most probable, and all credit was due in this case to the interne who argued correctly for this diagnosis. Necropsy revealed a cerebellar hemorrhage.

* * *

Case 15.—A man of twenty-eight was sent in as "polio-encephalitis," with history of having had a headache and been mentally dull, and at times confused, for several days. He had had an automobile accident as a result of this stupor, and two days later, while riding with his girl, became so confused and dizzy that he could no longer drive. His parents said he had complained of visual disturbances. There was no weakness. He had a slight temperature, was comatose, had slightly stiff neck, but otherwise no reflex changes; showed no cranial nerve palsies nor focal signs, and his spinal fluid pressure was up to 300 millimeters of water. There were two lymphocytes in the spinal fluid which showed a negative benzoin test. The blood sugar was 30 milligrams per 100 cubic centimeters of whole blood. It was thought the hypoglycemia was the cause of his symptoms, but the cause of the low blood sugar was not explained by its presence only. A diagnosis of "encephalitis" did explain the entire picture, the pituitary factor in sugar metabolism being well established by Cushing, Houssay, and others. The outstanding symptom of spontaneous hypoglycemia is weakness, and this patient was not weak; nor were there sweating, rapid pulse and respiration, dilated pupils, convulsions or other common findings. The mental state in hypoglycemia is usually clear until late. The final proof of the diagnosis were the spinal fluid findings and the failure of dextrose-insulin therapy. The return of his mental faculties has been gradual.

* * *

Cases 16, 17.—One patient was seen with a tumor of the spinal cord, and another more justifiably mistaken diagnosis was a hemorrhage of the cord due to trauma. It had been suspected that the accident resulted from lower extremity weakness instead of causing it. However, the sensory and sphincter phenomena, spasticity, dissociation of pain and thermal sense, and xanthochromic spinal fluid completed the diagnosis.

Several cases of infectious transverse myelitis were seen as poliomyelitis.

* * *

Case 18.—A boy of four suffered an acute upper respiratory infection, complicated with lumbar backache, and pains and weakness in the legs. He was treated at home for "poliomyelitis." Following his acute infection his disability became more pronounced and sphincter disturbances developed. When first seen both legs were maintained in a position of tense flexion, reflexes were hyperactive, there was considerable pain in the back and legs, and inconstant sphincter disturbances. A diagnosis of transverse myelitis was made. Not so obvious, however, was a tuberculous destruction of the third lumbar vertebra.

* * *

Cases 19, 20.—Two cases of chronic endocarditis were sent in as "polio-encephalitis"; one with cerebral embolus, and the other with marked lethargy as a result of the septicemia and severe anemia. The latter on necropsy showed petechial hemorrhages of the subarachnoid.

* * *

Cases 21, 22. — Two patients suspected of having poliomyelitis in the invasion stage were suffering from complications of appendicitis. One had an irritable colon with diarrhea and vomiting, marked toxemia and ultimately a hepatitis, or mild pyelophlebitis, by extension upward along the mesenteric lymphatics. The other had had a ruptured appendix operated two months previously, had been apathetic and listless and readily fatigued since, and prior to being seen had suffered persistent headache and backache, with "heaviness" of the legs. His findings were negative except for a suspicious "spine sign." Three days later he developed jaundice without pain, probably catarrhal.

* * *

Case 23.—One patient was suspected of having early poliomyelitis who was toxic as a result of an acute, painless, pyelitis.

* * *

Case 24.—One patient with acute pelvic inflammatory disease had pain in the back, with weakness and pain in the legs sufficient to cause a reasonable suspicion of at least radicular involvement.

* * *

Case 25.—A girl of sixteen had been ill two weeks with fever, headache, pain in the abdomen, and constipation. No source of her toxemia had been discovered. A widal had been done, suspecting possible typhoid. The pain in the abdomen seemed to localize over the lower half, and there developed some urinary retention, low backache and aching in the legs. Urine was negative. She was sent in as "possible poliomyelitis" because of the bladder paralysis, and the back and leg aches. Examination revealed no neurological findings. There was a mass in the lower abdomen halfway to the umbilicus. Catheterization did not remove it. Pelvic examination revealed an intact hymen, which, when ruptured, released a quart of degenerated blood. The mass disappeared. Diagnosis: "hematocolpos."

* * *

Case 26.—A case of puerperal sepsis was sent in as poliomyelitis. There was marked muscular weakness due to pain in the inflamed, tender muscles, and joints. Careful examination should have disclosed the true nature of the illness, for there were petechiae and all the findings of septicemia.

* * *

Cases 27, 28.—One case of malaria, and another of the very rare relapsing fever, were sent in as "poliomyelitis," the latter recognized and diagnosed by our resident, Doctor Radcliff.

* * *

Case 29.—The prize "boner" of the epidemic was in the case of an adult male negro complaining of pain in the back and legs. He did not enumerate all his symptoms nor disclose the entire history. On examination the legs were painful to touch, and on motion and attempted flexion to right angles caused severe pain in the groin and back. The admitting physician considered this a positive Kernig, and without further examination sent him to the contagious ward as "poliomyelitis." He had an acute gonorrheal epididymitis.

* * *

Case 30. — One marasmic baby was so weak and flaccid as to be suspected of having poliomyelitis.

* * *

Case 31.—Another child suffered an acute throat infection with subsequent pain in all the muscles and over the long bones. The blood picture was that of a severe anemia with many reticulocytes. The pain caused an initial suspicion of poliomyelitis. The final diagnosis was an acute reticulo-endotheliosis resulting from streptococcus infection of the throat. Necropsy showed hyperplasia of the marrow of the long bones.

* * *

Case 32.—A very weak baby with painful extremities was suspected of having poliomyelitis. The development of subcutaneous hemorrhages and their disappearance following orange juice, etc., confirmed a diagnosis of scurvy. Asymmetrical reflexes and weakness, and spinal fluid changes also confirmed the coincidental diagnosis of poliomyelitis.

* * *

Case 33.—A boy suffering from unquestioned poliomyelitis, involving all four extremities, developed gradually rising fever; slow, dicrotic pulse; distended abdomen; leukopenia; rose-spots, and ultimately reached the "typhoid state." Typhoid bacilli were found in his blood on culture, and the widal became positive in high dilution.

* * *

Case 34.—A nurse complained of severe frontal headache, marked pain in the back, nausea. She had suffered recurrences of spinal arthritis for several years, and was obstinately certain that her present illness was of the same origin. She had never suffered systemic reactions previously, however, and was at a loss to account for the headache and nausea. She developed urinary retention, constipation with distention of the abdomen, and marked muscle tenderness and weakness of the extremities. With the subsiding of systemic symptoms, there was a marked residual weakness of both arms and legs.

* * *

Case 35.—A boy of two was noticeably languid and refused to play. A limp was present in his left foot. The family physician diagnosed a "sprained ankle" and strapped it. The condition became aggravated, and the second physician seeing the case and noting weakness and muscle soreness, although intact reflexes, diagnosed "poliomyelitis" and sent the child to an orthopedic surgeon for late care. A final diagnosis was made of osteo-arthritis.

* * *

Case 36.—The most severe case of hysteria we have ever seen was during a former poliomyelitis epidemic (1925). The patient was completely paralyzed in all four extremities, incontinent, completely anesthetic and aphasic. She had a slight temperature, slow pulse and very slow, shallow respiration. Blood pressure was 110/75. Reflexes were feeble, but present. There were no cranial nerve palsies. The spinal fluid was normal. She was conscious and coöperative to the extent of answering direct questions with a slight nod or rotation of her head. The admitting diagnosis of "poliomyelitis" was changed to "complete myelitis of infectious origin." The aphasia could not be accounted for on the basis of an encephalitis with an otherwise intact sensorium and no cranial nerve palsies. Hysteria was lightly considered, but direct questioning failed to elicit any basis for maladjustment. When she lapsed into coma, required tube feeding and cardiac stimulants, we were certain of an involvement of the cerebrum. One of the neuropsychiatrists (Dr. Charles Allen) saw her in consultation, and was so certain of the diagnosis of hysteria that he took drastic measures to revive her. She left the hospital in two weeks, fully recovered and determined to dominate the marital situation.

TREATMENT

Treatment.—There is still considerable diversity of opinion concerning poliomyelitis therapy. The problem of *prophylaxis* has always seemed most important, but has never been satisfactorily settled. The avoiding of crowds obviously reduces the number of potential contacts with patients in the incubation stage of the disease, or with so-called "healthy carriers." Adequate nutrition and elimination are unquestionably factors in raising the individual's "total immunity," and maintaining his resistance to predisposing infections, particularly those of the respiratory tract which tend to deplete the protecting mucosa. Avoiding of fatigue is equally important, and was so forcefully brought to our attention in this epidemic. The voluntary history of illness following swimming, particularly in the hypertonic ocean water, was most striking. The presence of the virus in the water is questionable, but the increasing of contacts, the washing of protective mucus from the nose and throat, and the vascular changes in the nasopharynx incident to chilling are obviously factors.

Active Immunization.—Active immunization by vaccination has not been developed experimentally to a point where it is safe from human trial. Flexner has immunized monkeys by injecting minute doses of living virus, but has occasionally infected an animal, thereby establishing the danger of this method if applied to humans. Kolmer recently announced, through the lay press, successful human immunization with spinal cord dried by the Pasteur method. Levaditi and Landsteiner[12] used similar methods to protect monkeys, but found that in some cases the cord was infectious. The same was true after chemical attenuation of the virus. The use of dead virus has provided no immunity. Rhoads[13] safely protected monkeys by injections of mixtures of virus neutralized with immune serum. However, it is extremely doubtful if any of these procedures can be applied to human use, because of the necessity for maintaining virus by animal passage, which apparently renders it non-infectious for man. Henry and Johnson[14] attempted active, nonspecific immunization by vaccination against other diseases, but this failed to protect against poliomyelitis.

Passive Immunization.—Passive immunization by injection of convalescent serum has been advocated by Flexner, Park, and others, with good experimental justification. Other series of cases have failed to show any advantage from such a procedure, and our own experience comes within the latter category. Two hundred and seven doctors, nurses, and hospital employees were "immunized" by injections of 30 cubic centimeters or more of convalescent serum, and forty-eight of this number, or 23 per cent, developed the disease at varying intervals within three weeks following inoculation. This is an incidence far above that of the population at large. The factors of fatigue and intimate contact were no doubt pertinent; but again, these patients were on an average far the sickest, and remained longest in the hospital. The promiscuous publicity given this form of "protection" by a few physicians was most unfortunate, for it definitely added to the parental concern; it gave a false sense of security to many individuals thus injected, and it caused considerable resentment on the part of those physicians, some of whose patients had received inviting letters from former medical advisers. The specific antiviral properties of convalescent serum are not questioned, and its successful use in experimental prophylaxis in animals is recognized; but it seems illogical to expect much specific protection from a few cubic centimeters injected in advance of infection. The quantitative antibody content is minute, and unless virus is present to effect a virus antibody fixation the serum is rapidly eliminated. On the other hand, *whole blood* is recognized as the biologic stimulant to the reticulo-endothelial system, and its autolysis excites a non-specific, although *active*, immunologic response which affords some degree of protection against all infections, including poliomyelitis. A few intimate contacts thus treated developed no clinical symptoms, but the number was too small to be conclusive. Henry and Johnson[14] likewise could draw no conclusions from their series, although they used whole blood, as well as serum. We were pleased to note that Flexner[15] also advocated the use of whole blood prophylactically.

Convalescent Serum.—Convalescent serum as a therapeutic agent has proved of value in our experience, the evidence in the 1930 epidemic being conclusive.[1] However, a controlled series of cases in the 1931 epidemic in New York failed to show any virtue in the serum, although Parke has since been quoted as favoring its use early in the disease. Henry and Johnson's series[14] showed no advantage in the serum-treated group. We agree that little is to be expected of it after the central nervous system has been invaded beyond the stage of initial inflammation,[16] but we feel that it has virtue if used in the preparalytic stage, and that the present standards of diagnosis permit of this early recognition of the disease. The rapid abatement of symptoms following its use was quite striking, and this was further emphasized in those cases which relapsed two and three times and were immediately relieved on each occasion by additional serum. Administration was intramuscularly, intravenously and intrathecally, the latter both by lumbar and cistern routes. In this epidemic there was less necessity for repeated intrathecal injections and, except in the cerebral types, very few cistern punctures were indicated. We still feel, however, that in spite of the failure of experimenters to demonstrate virus in the spinal fluid,[17] intrathecal medication has proved valuable in our experience, particularly the injection into the cistern in proximity to the portal of entry to the central nervous system.[5,6,18] The apparent benefit may be mechanical or hydrostatic, or may be similar to that suggested as an explanation for relief from pain and symptoms of ileus, by spinal puncture. Such factors cannot apply to intramuscular injections, however, where we are satisfied serum is of value early. Although virus has not been demonstrated in the blood, the fact that immune bodies are present in the serum denotes a relationship. Furthermore, the rapid dissemination of blood to all tissues of the body recommends intravenous medication as a means of contacting the virus early, and thus bridging the eighteen to twenty hours required for absorption from the muscles. Thereafter the intramuscular route is sufficient. The relative value of convalescent serum and pooled, normal, adult serum will be reported by Doctor Kessel.

Immunotransfusion.—Immunotransfusion has been recommended as the one most advantageous therapeutic measure. The arguments in favor of serum apply to the use of blood containing it, and in addition there is the advantage of stimulation afforded the reticulo-endothelial system by the autolysis of foreign erythrocytes. The outstanding results obtained with this form of therapy in other virus diseases is well known, but were not duplicated in this experience. The many cases of infection among doctors and nurses threatened us with a shortage of trained personnel, and to possibly forestall such an emergency and give these patients every advantage, a blanket-order was given to immunotransfuse all physicians and nurses, in addition to giving them intramuscular serum. This was a fortunate coincidence, for many were mildly ill, and the limited number of suitable immune donors were consequently utilized for all patients of this group. This facilitated comparison with a parallel group treated with intramuscular serum, but with intravenous dextrose (10 per cent in normal saline) instead of transfusion with blood. Sixty cases were transfused. Fifty-five of them were unquestionably improved within twenty-four hours. Five (8.3 per cent) were very much worse in a similar length of time. Naturally, there was no way of determining whether or not these patients would have been just as bad, or even worse, without the transfusions, but they were the sickest of the two groups, and the transfused group were.

on an average, the longest in the hospital. On the other hand, the dextrose-treated patients were not consecutive cases of average severity, but were the most toxic of the lay admissions. They were, without exception, markedly improved within twenty-four hours, some of them from a degree of toxicity that bordered delirium, to a condition which they described as almost normal subjectively. The reason for the differences in the two groups is not obvious. Dextrose is valuable in combating any toxemia, because of its part in stimulating hepatic glycogenesis and glycogenolysis, its indirect effect on hydrogen-ion concentration of the blood through ketolysis, and its questionable antiviral properties. It is not specific. Immunotransfusion, on the other hand, is specific, but involves the factor of serum heterogenicity, independent of agglutinins, a factor which cannot be predetermined and one which constitutes a hazard of inestimable magnitude. The phenomenon of allergy, or whatever explanation is offered for the spontaneous damage to the choroid produced experimentally in animals by intravenous injections of foreign serums, may have a counterpart in the occasional, unexplained cerebral reaction exhibited by patients during direct transfusions with apparently homologous bloods. This may account for the small percentage of bad results from immunotransfusion. We feel that in cases showing involvement of the nervous system, in which no harm can be done by possible injury to already damaged natural barriers, that immunotransfusion may be safely and advantageously used. There is a definite hazard attending its early use.

Bradford Frame. — Another observation concerned the use of the Bradford frame. Many patients complained bitterly of the abdominal distress and sphincter difficulties occasioned by the straight position. A low, modified Fowler position, without too much thigh flexion gave them immediate relief. Also, instead of putting the arms in airplane splints at right angles with the body, a 45-degree angle was chosen, thereby allowing relaxation of the deltoids without stretching the latissimus dorsi and pectorals. A neutral position between biceps and triceps was also assumed. These minor changes seemed to afford considerable comfort.

SUMMARY AND CONCLUSIONS

1. Evidence is presented which suggests the possible existence of:

(*a*) More than one strain of human poliomyelitis virus;

(*b*) A relationship between this virus and a neurotrophic fraction of other toxins, particularly those of diphtheria and bacillary dysentery;

(*c*) A gastro-intestinal tract atrium of infection.

2. Fatigue and intimate contact were shown to be unquestionable factors in the spread of poliomyelitis.

3. Repeated relapses with systemic symptoms suggested an inadequate immunologic response or focal infection phenomena.

4. Involvement of sensory, as well as motor, areas of the central nervous system was demonstrated both pathologically and clinically.

5. Symptoms were present in some cases which indicated involvement of the sympathetic nervous system.

6. Symptoms of "radiculitis" replaced those of central nervous system origin in many cases.

7. Reflexes were often unchanged even in the presence of marked motor weakness or severe sensory disturbances.

8. Recovery has apparently been complete in 80 per cent of patients, some of whom had been severely paralyzed.

9. Sequellae included symptoms of psychogenic and sympathetic nervous system origin.

10. Twenty-two per cent of cases showed nervous system involvement without cellular or pressure changes in the spinal fluid.

11. The value of the colloidal-benzoin test is questionable. The colloidal-gold test is apparently more sensitive.

12. Relief of pain and abdominal distress by spinal puncture, in the presence of normal or low spinal fluid pressure, was noted. It was explained by the probable relief of edema about the posterior horn cells or nerve roots incident to the shift of balanced asmotic pressures between the spinal fluid and the perineural capillary circulation.

13. Differential diagnosis included fifty-seven different conditions confused with poliomyelitis, some of the more interesting of which were briefly related.

14. Prophylactic treatment with convalescent serum was apparently ineffective, the incidence among those treated being greater than among the population at large. Whole blood was used as a means of stimulating a non-specific immunologic response in a few cases, with good results.

15. Convalescent serum given intravenously and intramuscularly relieved symptoms in almost every case. This was also true upon relapse. We feel it has definite value in the early treatment of the disease.

16. Intrathecal, particularly intracisternal, therapy was indicated less often than in the past, but relief from nervous symptoms seems to justify its use.

17. Sixty cases of varying degrees of severity were transfused with blood from immune donors. Eight per cent reacted badly, and the group as a whole were more ill and remained longer in the hospital than a control group of more toxic patients treated with intravenous dextrose, 10 per cent in normal saline. Both series received intramuscular serum. The transfusion results were explained on a basis of probable serum-protein heterogenicity, with resultant choroid damage. We feel that immunotransfusion is to be reserved for those cases wherein the central nervous system has already been invaded, but should not be used promiscuously in the early systemic phase of invasion.

18. Slight modification of the usual method of obtaining physiological rest seemed to give good results.

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DISCUSSION

Frederick Tice, M. D. (25 East Washington Street, Chicago, Illinois).—It seems to me that the authors have done well to call attention to the atypical clinical manifestations of so-called poliomyelitis, and the great difficulty of making a direct, as well as a differential diagnosis. In many other diseases, notably typhoid, pneumonia, epidemic encephalitis and meningitis, the classical clinical picture has apparently changed during the past few years. The reason for this is not entirely clear. Perhaps the type of the virus or infection, or the degree of response as concerns the immunity has changed, which has an influence on the clinical syndrome.

It might well be that the same variation has taken place in poliomyelitis, and the recording of these irregular, atypical cases, constitutes a valuable service.

The conclusions on the spinal fluid examinations are also of great interest, as not a few clinicians place too much dependence upon this means of diagnosis.

As to the therapy, which is the most important consideration, it is to be hoped that the prophylactic vaccine may prove to be efficacious, or at least constitute one more step in advance as has occurred in some of the other diseases.

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Archibald L. Hoyne, M. D. (25 East Washington Street, Chicago, Illinois). — The vast experience acquired in a study of 1,800 cases compels attention, and the atypical features noted force consideration and wonderment. To one who has observed approximately one thousand poliomyelitis patients with the customary signs and symptoms, many of the authors' findings are little short of bewildering. The only explanation for such divergencies in the Los Angeles epidemic must be attributed to the reasons stated.

In the 1917 Chicago outbreak of poliomyelitis, when we had about five hundred cases at the Cook County Hospital alone, it was believed that diagnosis of the disease was not attended by great difficulties. Were we to encounter now such types as described in this paper, numerous errors in diagnosis would undoubtedly result, unless a knowledge of the Los Angeles experience had been acquired.

Observations reported by Straus, by Burrows, and by Toomey, have called attention to certain features of the disease involving the intestinal tract. Yet it was not so many years ago when the opinion was more or less general that the intestinal tract played no part as a portal of entry for poliomyelitis. As has been stated, with the ever-increasing additions to the literature, the mysteries which engulf some of the etiologic factors of poliomyelitis will eventually be solved.

In view of the atypical findings discussed in this paper, it is readily apparent that the average physician will often fail to diagnose poliomyelitis. In the past, great reliance has always been placed on the results of spinal fluid examinations. If such examinations cannot be depended upon to confirm a diagnosis of poliomyelitis, we are likely to be confused in many instances.

The authors' citations of numerous cases in which poliomyelitis was erroneously suspected are of great interest. Sufficient publicity can readily produce an epidemic of any disease in the minds of the laity. However, by focusing attention on the disease in question, actual cases will be diagnosed earlier, and the spread of the infection is likely to be more quickly checked. In the Chicago outbreaks of 1916 and 1917, almost every conceivable disease and condition was reported by physicians as poliomyelitis. In those years nearly all reported cases were examined by me for final diagnosis, and so the authors' "57 varieties" are fully appreciated.

Until some satisfactory method for active immunization is accepted, we shall undoubtedly have epidemics of poliomyelitis from time to time. Park seems to be of the opinion that Brodie's recent work along this line offers a hopeful outlook, though the method is not yet ready for general adoption.

It has seemed to me that the value of convalescent poliomyelitis serum should be greater for passive immunization than for treatment; therefore, the opposing view of the writers is of special interest. That neutralizing substances in convalescent serum protect the monkey, when mixed convalescent serum and poliomyelitis virus are injected, is an acknowledged fact. It is also understandable, however, that the injection of convalescent poliomyelitis serum into an individual for curative purposes is a far different matter.

If convalescent serum has any real worth, its effectiveness should be most evident during the preparalytic stage, as the authors point out. On the other hand, if we accept the dictum that more than 85 per cent of all poliomyelitis cases have no paralysis, are we justified in believing that convalescent serum, when given in the preparalytic stage, has prevented paralysis, if no paralysis develops? Or are such instances merely examples of cases that would have followed the same course without resorting to the use of serum?

My own experience with the use of convalescent serum in the treatment of poliomyelitis has led me to believe that no marked benefits may be expected from its administration. Notwithstanding this feeling on my part, it is my practice to inject it because there seems to be nothing better, and no harm should ensue. However, I am inclined to doubt the advisability of intrathecal administration of any kind of serum now available for poliomyelitis patients.

In 1916, at the Cook County Hospital, attention was called to the apparent benefits derived from occasional lumbar puncture in the treatment of poliomyelitis. Resort to this method of therapy was adopted, even though the spinal fluid was not under great pressure. Nevertheless, it was emphasized at that time, and since, that the spinal fluid should be released slowly, and that too large a quantity should not be withdrawn when puncture is made. Otherwise, with an abrupt change in spinal fluid pressure, there is the possibility of prolapse of the medulla and sudden death. The authors' explanation for the value of spinal puncture confirms my own opinion, which was based chiefly on practical observation.

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Doctor Meals (Closing). — That the poliomyelitis described in the paper submitted by us is a variant from the common form previously seen in this and other localities is obvious, although Dr. C. P. Leake of the United States Public Health Service tells us he has seen similar epidemics in other parts of this country. Apparently a mutation of the virus has been effected, with consequent alterations of virulences, affinities and immunogenic properties; although, however, convalescent serum from these patients has been shown in our laboratory to neutralize the Flexner strain of poliomyelitis virus.

A slight outbreak occurred again this year, with pronounced antecedent gastro-intestinal symptoms and, in some cases, atypical residual findings. These included, in addition to the usual pareses of isolated muscle groups and localized tenderness, occasional persistent hyperactive reflexes and, in one case, a persistent clonus. A more than usual incidence of so-called "Spencer's disease," the intractable gastroenteritis of doubtful etiology, suspiciously due to a filterable virus, is complicating the picture and may be related to this atypical "polio."

Time has furnished us preliminary data on the value of Brodie's and Kolmer's vaccines. Nearly two thousand injections have been given throughout Southern California with no untoward reactions. Apparently there is no hazard, or at least a minimal one, attending its use. Premature reports indicate a much lower incidence of the disease among those immunized than among those not treated. One of our five fatal cases of the medullary type seen this spring had received one injection of five cubic centimeters of the Brodie vaccine one month prior to the onset of symptoms, but, of course, this one case proves nothing. We are maintaining an open-minded attitude, without letting our enthusiasm run rampant, but nevertheless experiencing a feeling of hopeful expectancy.

THE LURE OF MEDICAL HISTORY[*]

MR. JOHN HUNTER ON GENERATION[†][‡]

By Arthur William Meyer, M. D.
Stanford University

II[**]

HUNTER'S OBSCURE LANGUAGE

HUNTER'S failure to express himself clearly has often been commented upon and reminds one of similar comments regarding Harvey's Latin. Both Owen (1840) and Russell (1916) emphasized the use by Hunter of somewhat confused language in connection with the above statement of the theory of recapitulation. Owen wrote: "We may, I think, perceive, from the evident difficulty with which Hunter expresses the idea, that his mind was oppressed with both its novelty and vastness. Men's thoughts require to be familiarized with propositions of such generality before their exact limits and full application can be appreciated." (Preface to Animal Œconomy, p. 26.) Butler (1910), however, thought that Hunter's ". . . difficulty in the presentation of abstract ideas [was] not wholly attributable to the novelty of his doctrine," and Singer (1928) even said that Hunter ". . . like Leonardo, . . . was handicapped at every turn by literary incoherence. . . . Fully to appreciate so incoherent a writer, it is unfortunately necessary to wade through many works written in his own clumsy and ill-arranged manner. To gain any real idea of this great personality, we must consult the writings of his contemporary colleagues." (pp. 165-166.) So well-informed an historian of science as Singer undoubtedly is justified in this opinion, but I received a somewhat more favorable impression from my limited reading of Hunter. Moreover, if one could place one's self in the scientific atmosphere of Hunter's time, some passages would lose their apparent obscurity or seeming contradiction. Owen, to be sure, lived near enough to the time of Hunter to be able to do this, and Singer is able to effect the same result through his large knowledge of the history of science. Some of the obscurity in Hunter's writings may, however, have another source; for Hunter, like Harvey, had an aversion against using new words, and said ". . . . to coin words would not answer the purpose, because then I must have a dictionary of my own."

ON SEMEN

Hunter held ". . . . that the semen differs very little from common mucus," and said that it was regarded as the "most balsamic part," though it was "not a bit more 'balsamic' than the parents it sprung from." (Essays and Observations, *i*, p. 193.) He rightly thought that ejaculation of it relaxes and weakens the individual more than does any other discharge, because of the accompanying spasm which, like fainting fits, produces sleep.

Hunter also deserves a great deal of credit for recognizing that the term "vesiculae seminales" really is a misnomer. In his notes on the guinea pig, he wrote: "Supposing I have called the foregoing bags 'vesiculae seminales,' yet I do not believe that they are so for these reasons: first, the mucus that they contain is by much too thick; secondly, it is thickest at the entrance of the ducts, where we would expect to find it thinnest if it were semen; for it would be natural to suppose that the last that came in would be the thinnest; thirdly, it is not natural to suppose that it would be in such quantity as to lie in the urethra; fourthly, it is not at all of the colour of the semen that is in the vasa deferentia, excepting that part that is in the urethra which seems to be mixed with it; fifthly, as that in the urethra is of a different colour (but differs very little in consistence), and that difference is owing to a mixture of semen, that would show that no semen is mixed with the secretion that is within the bags; sixthly, the mucus that is within the bags is the same as that which is within the prostate gland; for they have no prostate, if the glands which I take to be the prostate be not it: seventhly, the vasa deferentia do not open into these bags, nor communicate therewith, excepting by means of the urethra." (Essays and Observations, *ii*, pp. 210-211.)

Under the heading "Observations on the glands situated between the rectum and bladder, called vesiculae seminales," he further wrote: "Those bags, in the male of some animals, which are situated between the bladder and rectum, and commonly called 'vesiculae seminales,' have been considered as reservoirs of the semen secreted by the testicles, in the same manner as the gall-bladder is supposed to be a reservoir of the bile. Physiologists must have been led to form this opinion from observing that in the human subject their ducts communicate with the vasa deferentia before their termination in the urethra. This communication was supposed to allow the semen, when not immediately wanted, to pass into the bags from the vasa deferentia by a species of regurgitation. But more accurate observations respecting their structure and contents in the human subject, and on corresponding parts in other animals supposed to answer a similar purpose, joined to the circumstance of their not being found in every class, induced me to conclude that this opinion was erroneous. To throw as much light upon this subject as possible, I made a number of experiments, and availed myself of every opportunity which offered of examining whatever could in any way elucidate the point; and, from what I have been able to collect, I think it will appear that they cannot be considered as reservoirs of the semen.

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[*] A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany department, and its page number will be found on the front cover.

[†] Because John Hunter occupies so large a place in the development of surgery, it is commonly but erroneously assumed that he had the title of Doctor of Medicine.

[‡] From the department of anatomy, Stanford University Medical School.

[**] Part I of this paper was printed in the August issue, Califoria and Western Medicine, page 145.

"To proceed regularly with my investigation, I shall begin by comparing the contents of these vesiculae with the semen as it is emitted from the penis of a living man. From which comparison it will appear that the two secretions are very different in their sensible properties of colour and smell; and although the semen which constitutes the first part of the emission is evidently different from the last, yet every part of it is unlike the mucus found in these vesiculae." (Animal Œconomy, p. 58.)

INFERENCES CONCERNING SEMINAL VESICLES AND SEMEN

"From the facts which I have stated respecting the organs of generation, the observations which I have made, and the series of actions which I have considered as taking place in the copulation of animals, I think the following inferences may be fairly drawn.

"That the bags, called vesiculae seminales, are not seminal reservoirs, but glands secreting a peculiar mucus; and that the bulb of the urethra is, properly speaking, the receptacle in which the semen is accumulated previous to ejection.

"Although it seems to have been proved that the vesiculae do not contain the semen, I have not been able to ascertain their particular use; we may, however, be allowed upon the whole to conclude that they are, together with other parts, subservient to the purposes of generation." (*Ibid.*, p. 70.) Although Hunter was mistaken in saying that no spermatozoa are forced into the vesicles, and that the contents of the seminal vesicles do not form a part of semen, or ejaculate, it is regrettable that there still are genito-urinary specialists who are unaware that he, and Thomas Wharton before him, were correct in regard to the major conclusion.

HUNTER'S EFFORTS TO FIND THE MAMMALIAN OVUM

Hunter apparently made repeated attempts to find the mammalian ovum in the ovaries of hogs, sheep, asses and so forth; killing the female a few days after mating. Since he was unaware of the fact that the ova by this time had been discharged from the ovary and probably had undergone maturation and fertilization, or even had entered the uterus, he merely cut into the remaining "ova sacs"—that is, the Graafian follicles—and carefully looked for ova, but found none. He unfortunately did not always give the exact time that elapsed before he killed the female, and seems to have thought that, instead of being of first importance, this was of little consequence. If he ever opened ovaries containing ripe Graafian follicles, he probably did not recognize the ovum because, like all others of his and later times, he probably looked for something larger. This was also the conclusion of Sir Richard Owen, who in a footnote said: "The ovarian ovum, of which Hunter appears to have been in question, being pellucid, colorless, and much more minute than he anticipated, escaped his observation." It is not surprising that this should have been the case, for it had long been known that, in general, the larger the bird or reptile, the larger the egg. Moreover, the eggs of amphibia and fish had long been known and were easily detected, and it was a fair supposition that the eggs of mammals would at least have appreciable size, even if a similar volumetric ratio did not obtain among mammals as among amphibia or birds.

It is puzzling why Hunter did not find a conceptus at the time of autopsy, in the uterus of a young woman who "poisoned herself in the first month of her pregnancy"; for it is explicitly stated that ". . . . no precaution was omitted which could be devised to prevent it being overlooked or destroyed." It is recorded that: "The uterus was opened in a basin of clear water, the incision was conducted with great circumspection, and very slowly continued, till the whole of the cavity was exposed. Every part of the internal surface was minutely examined with magnifying glasses; but in no situation was there anything resembling an embryo to be found.

"The presence of a corpus luteum, the enlargement of the uterus, the newly formed vascular membrane, or decidua, lining the cavity, and the history of the case, sufficiently prove conception to have taken place; and the embryo being nowhere detected by an examination so accurate and conducted by an anatomist so skillful in minute investigations, would induce a belief that the fœtus had not been sufficiently advanced to take on a regular form." In a footnote to these words, Owen said that "With respect to the negative results of Mr. Hunter's examination relative to the reception of the fœtus in the uterus, and 'its acquisition of a visible form,' I suppose that the word 'foetus' is here used to express the product of generation, or ovum, especially as it is stated, that 'in the examination of the uterus and Fallopian tubes, Mr. Hunter's chief object was the detection of the "embryo".' Now if the product of generation were really expected to have been seen in that state of development which we understand by the terms embryo and fœtus, its presence was most likely overlooked; since, from the analogy of the dog and rabbit, it most probably would have existed merely as a small pellucid vesicle or ovum, supposing that it had escaped from the ovarium; and it is to be regretted that the expression 'there was found in the left "ovarium" a corpus luteum' is all the evidence on that point which the present case affords." In an addendum to this footnote, Owen quoted Home as having stated in the Philosophical Transactions, page 255, that " 'As the ovum was so extremely small as to admit of dispute whether it was one or not, I carried it immediately to Kew, to Mr. Bauer, who, after examining it, said it looked like the egg of an insect.' " Owen added: "Mr. Clift, who laid open the uterus in question, and patiently scrutinized the whole of its cavity without perceiving any trace of an ovum, has always been of opinion that the one afterwards detected by Home was dropped from one of the numerous flesh-flies which were buzzing about at the time of the examination." (Animal Œconomy, pp. 91-93.) These words of Owen might imply that Mr. Clift instead of Mr. Hunter made the examination, were it not for the fact that in the footnote mentioned above, Owen spoke of ". . . the negative results of Mr. Hunter's examination . . ." and Ogle, whose words are amplified by Owen's footnote, spoke of the examination as having been ". . . so accurate and conducted by an anatomist so skillful in minute investigation. . . ." Since Mr. Clift was a young man of only seventeen or eighteen years, these words could hardly apply to him and we may hence conclude that it was John Hunter himself who had carefully scrutinized the specimen.

HUNTER'S EXPERIMENTAL ATTITUDE

Because Hunter was mainly impressed with the rôle of function and perhaps believed that it was the creator of structure, it is not surprising that he seems to have lacked equal appreciation for minute morphology. Hunter's feeling for function had the great compensation that he realized the value of experiment. Everyone remembers his oft-quoted words to Jenner: "I think your solution is just; but why think? why not try the experiment? Repeat all the experiments upon a hedgehog as soon as you receive this, and they will give you the solution." His experimental attitude is also exemplified very well by his notes of December 24, 1781, in which he stated:

"In a sow which took the boar on Tuesday and was killed the Thursday sennight following, in the morning, which was about ten days after, the glands of the ovarium [ovisacs or Graafian vesicles] were swelled a little, and, when cut into, contained coagulated blood. Some of them contained pieces bigger than a cherry stone, others were less. The horns of the uterus seemed preparing for the ova, being divided into partitions by a tightness of stricture, but of unequal lengths, some being as long again as others; and those divisions corresponded with the number of glands in one [the ovarium of that] side, being eleven in number; [those of] the other side could not be counted, owing to its being opened later, by which means the parts were not so distinct.

"A sow that had taken the boar, April the —, was killed April —, viz., — days after.

"[The dates are lost; however, it is not material; it shows the progress and difference in the same animal, some being further advanced than others.—J. H.] [*The dates, to be sure, were of crucial importance.*]

"The following appearances were observed: The ovarium of the right side was larger than that of the left. There appeared several ova [ovisacs] that were more vascular and larger than the others. These were eleven in number, each of which had a part projecting like a nipple, which was more evident in some than in others. The remaining number had this appearance beginning to take place; the other ova [ovisacs] were smaller, of a yellowish white, harder and firmer in consistence. When cut into, they appeared of the same colour [throughout] their whole substance.

"One of the eleven [ovisacs] appeared as if it had burst. When cut into, it had an irregular appearance of a cavity, in which there was extravasated coagulated blood. On cutting into the other ova [ovisacs] which seemed impregnated (viz., those which had the projecting appearance), they seemed to be taking on more the appearance of a cavity; which in some of them contained a yellowish serum, in others coagulated blood, but of irregular form, like extravasation into the substance. This was much more in some than in others.

"In the other [ovisacs] that had not the above projection, their cavities appeared more circumscribed and perfect; their inner surfaces were very vascular with partial exudations of coagulated blood, and they contained a serum. The left ovarium had seven of the ova [ovisacs] of a red colour, four of which had a projection. One of them seemed ready to burst; and in cutting into its substance, one cavity, whose surface was vascular, was covered with coagulated blood, and contained also serum. The other three were not so much advanced; but all contained coagulated blood, which might be separated from all sides of the cavity.[1]

"In the uterus of a sow sixteen days gone, the fœtus was formed, and its purse-shaped membrane [chorion and allantois] was above a foot long in some. This membrane, with the fœtus nearly in the middle between each end, occupied nearly the whole length of the cavity of the uterus, like a tape-worm in the intestines. Through the whole course of the uterus was a white mucus almost like cream; and where the fœtus lay, this was most in quantity.

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[1] "[Here the process of examination seems to have been *sections across*, or *cutting into the substance* of the ovisac, whereby the true ovum was most probably destroyed, and its contents only observed, which might have been the '*serum*' that Hunter mentions. Had the exterior covering of the mammillary eminence been carefully scratched open, the ovarian ovum might have been detected and removed entire.]" It would have been better had Sir Richard said that the ovum probably was lost, and it is highly improbable that anyone could have observed its contents without considerable magnification.

"In two other sows that were only allowed to go ten days, I could not observe any change whatever, and there was none of the mucus to be found in either uterus." (Essays and Observations, *i*, pp. 196-198.)

In the "Experiments on Sows" made in December, 1781, and in that on an ass in October 2, 1789, for the purpose of discovering the early ovum, Hunter does not seem to have profited by the important experiments and observations of Cruikshank on rabbits. This is very surprising, for he seems to have been on friendly terms with him, and Cruikshank stated that the results of his work had been incorporated in the lecture on the gravid uterus given annually at the Great Windmill Street school, for nineteen years before their publication in 1797. Von Baer regarded them as so accurate and so suggestive that he wondered why the mammalian ovum had not been discovered before. It would seem that John, like William Hunter and Haighton, did not grasp the import of Cruikshank's findings and hence still sought for the ovum in the ovary ninety-two hours after copulation in the ass, and nine days after copulation in the sow.

The constrictions in the cornua which Hunter noticed do not indicate that the blastocysts had already implanted, for in a personal letter Professor Corner informed me that they do not become fixed until the thirteenth day. He further suggested that the constrictions which Hunter saw were transient muscular contractions. Weysse stated in 1894 that the largest blastodermic vesicle found by him in the sow before eleven days measured 3.9 millimeters, and that one seen ten days after mating measured only 1.95. According to Assheton (1898), the blastodermic vesicle increases from 0.2 to 1.95 millimeters from the seventh to the ninth day, and is 3.35 millimeters large by the tenth day. According to Corner, the blastocysts of the hog are soft, collapsed vesicles a few millimeters in diameter, nine days after mating, elongation beginning on the eleventh day. There seems to be no agreement among investigators regarding this matter, however, for it has been estimated that they are up to forty millimeters in length at this time. If so, it seems that Hunter would have recognized them. In the ass they probably were still in the tubes, and Hunter hence failed to find anything except the ruptured follicles and corpora rubra in the latter.

ON LOCAL RESPONSE IN GROWTH

It is especially interesting to note that Hunter called attention to the fact that there is a marked local response in growth at the site of uterine implantation. He thought that the human fetus probably moved more than that of any other animal because of the great length of its cord and the presence of a relatively large amount of amniotic fluid. He apparently had a good idea of the gross formation of the yolk or ovum in the ovaries of the fowl, and he seems to have watched the development of the eggs with great care, though he does not seem to have availed himself of the microscope to any extent. He preferred to speak of the albumen of the egg as slime, and knew that it was produced by the oviduct. He thought that it ". . . comes nearest to the nature of blood of any animal substance we know; and we know it is alive, therefore not necessary to undergo any change to have this effect produced; for it is only the absorption of living parts, therefore is capable of composing the animal without having undergone the act of digestion. . . ." (Essays and Observations, *i*, p. 202.)

"FUNCTIONS OF NUTRITION AND ABSORPTION"

This is in harmony with his idea that chyle has life, and that food becomes "animalized" during digestion. When considering the "Functions of nutrition and absorption," he also wrote: "The remote cause of absorption of whole and living parts implies the existence of two conditions, the first of which is a consciousness, in the part to be absorbed, of the unfitness or impossibility of remaining under such circumstances, whatever they be, and therefore they become ready for removal, and submit to it with ease. The second is a consciousness of the absorbents of such a state of the parts. Both these concurring, they have nothing to do but to fall to the work." Since Palmer's comment upon this idea of Hunter is so pertinent and so timely even today, I shall insert his words. He wrote: "The reader, I imagine, will scarcely refrain from smiling at the *naïveté* with which our author here ascribes consciousness and intelligence to an animal body, to an extent little inferior to Boerhaave, Van Helmont, or even Stahl. It were devoutly to be wished that the *body politic* possessed a similar consciousness of what ought to be done, and an equal will and power to carry its resolutions into effect." (Principles of Surgery, p. 49.)

It will be recalled that Hunter also looked upon the blood as living and as extraordinarily potent, recalling very much the opinions of Harvey; but it is rather surprising that he held the view that the albumen could be incorporated directly into the body of the developing embryo without digestion, for, as to the yolk, he stated very clearly that as ". . . this membrane ["membrana vitelli"] advances, the yolk becomes fluid, beginning at first where the membranal forms, extending itself as the membrane of the yolk extends, by which means the yolk is rendered fit for passing through the duct into the intestine, after the chick is hatched; and it is even not coagulable with heat, so that we may know when an egg has been sat upon, when boiled, for the yolk remains a thin and watery fluid." (Essays and Observations, pp. 208-209.)

HUNTER'S IDEA OF FERTILIZATION

Hunter's idea of fertilization was akin to Harvey's in that he also believed it was due to an influence; not the influence of the male upon the female, however, but of semen upon the ovum. This conclusion seemed to him to be supported by some experiments upon silkworms, for he said: "In dissecting the female parts in the silk-moth, I discovered a bag lying on what may be called the vagina, or common oviduct, whose mouth or opening was external, but it had a canal of communication between it and the common oviduct. In dissecting these parts before copulation I found this bag empty, and when I dissected them after, I found it full. Suspecting this to contain the semen of the male, I immediately conceived the following experiment. I opened the female as soon as the male had united to her, and found the penis in the opening of this bag, and by opening the duct where the penis lay I observed the semen lying on the end of the penis. In another, I observed the bag to fill in the time of copulation; and in a pair that died in the act, I found the penis in this passage.

"When we consider the impregnation of the egg in the silk-worm, we may observe the following circumstances:

"First, many of the ova are completely formed, and covered with a hard shell, before copulation; secondly, the animals are a vast while in the act of copulation; and, thirdly, the bags at the anus are filled during the time of copulation. From the first observation it appears that the egg can receive the male influence through the hard or horny part of the shell. To know how far the whole, or only a part of the eggs, were impregnated by each copulation, I made the following experiments. I took a female just emerged out of her cell, and put a male to her, and allowed them to be connected their full time. They were in copulation ten hours. I then put her into a box by herself, and when she laid her eggs, I numbered the different parcels as she laid them, viz., 1, 2, 3, 4, 5; these eggs I preserved, and in the summer following I perceived that the No. 5 was as prolific as the No. 1; so that this one copulation was capable of impregnating the whole brood; and therefore the male influence must go either along the oviduct its whole length, and impregnate the incomplete eggs as well as the complete, which appears to be not likely, or those not yet formed were impregnated from the reservoir in the act of laying: for I conceived that these bags, by containing semen, had a power of impregnating the egg as it passed along to the anus, just as it traversed the mouth of the duct of communication." (Animal Œconomy, p. 451.)

(To be continued)

CLINICAL NOTES AND CASE REPORTS

EPINEPHRIN BY INHALATION, FOR THE RELIEF OF ATTACKS OF BRONCHIAL ASTHMA

By Edward Matzger, M.D.
San Francisco

Epinephrin by inhalation, for the relief of the attacks of bronchial asthma, is now a simple procedure, and available to all asthma victims. The technical feat of perfecting an all-glass nebulizer that can actually vaporize watery solutions has been accomplished. This innovation is of importance both to the patient, who is the victim, and to the physician, who is confronted with the problem of relieving attacks of bronchial asthma.

To those of us who have been of the opinion that the pathology of bronchial asthma is predominantly an edema of the bronchial mucous membrane, epinephrin applied locally appeals as the logical technique for its administration. The ability of the patient to breathe more deeply as the vaporized epinephrin is inhaled through the open mouth, speaks for a progressive shrinking of the edematous bronchial mucous membrane. This ability to shrink edematous bronchial mucous membrane parallels what we can see when epinephrin is applied directly to the swollen nasal mucous membrane.

This idea of inhalation therapy for the relief of bronchial asthma developed shortly after the introduction of the use of epinephrin by injection. I have found references to such attempts in 1921 (Ephraim: Dtsch. Med. Wochenschr.). There are for sale at the present time several motor-driven apparatuses, each said to accomplish vaporization, but I have never found one which truly vaporizes aqueous solutions. Inhalation of epinephrin vaporized by boiling has failed to relieve attacks.

There are several all-glass atomizers on the market which, though they deliver some vapor, also spray droplets. The vapor can be inhaled, but the droplets condense on the buccal and pharyngeal mucous membranes, to the patient's disadvantage. The vaporizer I use holds back the droplets and delivers a considerable quantity of true vapor. A firm* has placed on the market the apparatus of my own design that works satisfactorily.

The epinephrin used must be more concentrated than the usually available 1 to 1,000 strength. I have used epinephrin, distributed by several firms, with satisfactory results, the concentration varying from 1-500 to 1-100 strength. I have checked blood sugars, blood pressures and urine analyses on eight patients, and agree with Dr. K. Lageder, (in the *Beiträge zur Klinik der Tuberkulose,* Vol. 83, page 605,) that there is little or no systemic effect from the small amounts of epinephrin actually absorbed.

It is obvious that epinephrin, five to ten times the strength ordinarily used, should be dispensed only on prescription. I can foresee where patients unusually susceptible to epinephrin might be shocked so severely that death might result. I believe that each patient should be tested for blood pressure changes before, during and after its administration. Should the blood pressure readings indicate a rise unusually high in the systolic pressure, or even as small as a ten to twenty-point rise in the diastolic pressure, this form of therapy might be contraindicated.

I am carrying out a series of detailed studies on hospitalized patients in order to determine the effects as well as the possible dangers. The satisfactory results so far observed in a large group of patients during the past ten months emphasize two main points. A considerable quantity of vapor without droplets must be produced. An attendant can operate the hand bulb for children and weakened adults, because, if sufficient vapor is available for inhalation, prompt relief is secured. The second point is that the epinephrin solution used must be concentrated. The more efficient the vaporizer is, the less concentrated the solution need be, thereby increasing the margin of safety.

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* The Vaporizer Products Company, 776 Harrison Street, San Francisco.

I believe that caution must be exercised in recommending this procedure, and that patients submitting to this form of therapy should be under observation and study until such time that all of the possible contraindications have been determined.

909 Hyde Street.

ATYPICAL FLEXNER DYSENTERY*

By Carl S. J. Tillmanns, M.D.
Los Angeles

After twenty-six years of use of vaccine therapy, including tuberculin, because of the many severe reactions and poor results, I have come to take up the use of autogenous antigens, and wish to report the following two cases of Flexner type dysentery.

REPORT OF CASES

Case 1.—Mrs. H., white, aged sixty-eight, previously in good health, was stricken with many diarrheal bloody stools and collapse November 8, 1934. Coming through the Panama Canal on a British tramp steamer, she arrived in Los Angeles Harbor on October 29, 1934. Her friend, Miss L., had been taken ill with the disease on October 17, 1934.

First night: Twenty bloody stools; nausea; vomiting; temperature, 102 degrees; collapse. Laboratory report: Typical bacillary dysentery stools; stock phage for Flexner bacillus given.

November 10: Maximum temperature, 101.2 degrees; five stools. Laboratory report: Typical Flexner bacillus dysentery colonies, which would not lyse. Stock phage given.

November 11: Six to ten bloody, mucoid stools; tenesmus. Flexner stock phage given; temperature, 99.6 degrees; irregular pulse.

November 12: Six liquid stools; temperature, 99.8 degrees.

November 13: Five stools; temperature, 99.2 degrees.

November 14: Autogenous antigen prepared from stool cultures by Doctor Wood; temperature, 99.6 degrees; four to six bloody stools.

November 15: .1 cc. antigen given intradermally; no stool that day; intense local reaction; maximum temperature, 99.3 degrees; felt better.

November 16: .05 cc. antigen intradermally; temperature, 98.8 degrees; one stool flatus; enema gives one hard stool; semi-solid diet.

November 17: Temperature, 98.6 degrees; no stool; good day; flatus, red areola site of injection.

November 18: .2 cc. antigen intradermally; three hard stools; temperature, 99.3 degrees.

November 19: Two semi-solid stools; wheelchair; temperature, 99.7 degrees.

November 20: .2 cc. antigen intradermally; two stools; upset in the evening with one emesis; maximum temperature, 100 degrees.

November 21: Three normal stools; goes to toilet; maximum temperature, 99.5 degrees.

November 22: Temperature, 98.6 degrees; feeling fine; one stool; general diet.

November 23: Temperature, 99.2 degrees; discharged from hospital.

During the next seven days her temperature and stools were normal, and she remained well.

* * *

Case 2.—Miss L., also white, aged fifty-seven, friend of Mrs. H., came with her on the same steamer from England, passing through the Panama Canal. Three of the ship's people, including the second officer, had diarrhea. Miss L. became ill, October 17, 1934, as they came out of the Canal: many bloody diarrheal stools; fever; loss of weight; great debility; periods of improvement followed by remissions.

She landed in Los Angeles Harbor on October 29, 1934. My first call was November 8: twenty mucosanguineous stools.

November 9: Taken to hospital; maximum temperature, 100 degrees; incontinent both, bladder and bowel; emesis; the bloody, mucoid stools have many white and red blood cells, as in bacillary dysentery; twenty stools. Bacteriophage of Flexner bacillus from stock phage given by mouth; supportive glucose intravenously.

November 10: Temperature, 99.6 degrees; very weak; six to ten diarrheal stools. The second vial of stock phage was given by mouth; plate colonies Flexner type dysentery, which were atypical in that they would not lyse.

November 11: Temperature, 101.3 degrees; five liquid stools recorded; stock phage given by mouth; gruels and glucose.

November 13: Drowsy, weak and irregular pulse; two stools; temperature, 103.8 degrees.

November 14: Six liquid stools; drowsy; temperature, 100.2 degrees.

November 15: Temperature, 100.5 degrees; four semi-liquid stools; very drowsy; .1 cc. autogenous Wood's antigen intradermally; severe local reaction from the antigen.

November 16: Two formed normal stools; maximum temperature, 99.3 degrees—lowest, 97 degrees; feels much stronger; .1 cc. antigen autogenous intradermally, with strong local reaction.

November 17: Maximum temperature, 99.2 degrees; three semi-formed stools; .1 cc. antigen intravenously, with strong local reaction.

November 18: Temperature, 98.6 degrees; much improved; three formed stools. Because we assumed that she must have colon ulcers, we increased the strength of the antigen, giving .2 cc. intradermally, with local reaction.

November 19: Temperature, 99.7 degrees; three constipated stools; appetite fair.

November 20: Temperature, 98.6 degrees; one normal stool; temperature normal, and remained so thereafter.

Discharged from the hospital, as recovered, November 23.

COMMENT

1. In both cases this was the same atypical Flexner type dysentery which did not respond to the stock phage and could not be made to lyse. Patients were losing out.

2. Immediate relief obtained with the autogenous antigen prepared by Doctor Frank M. Wood of Los Angeles, and full recovery in six and seven days.

8930 South Vermont Avenue.

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* The isolation, culturing and recognition of this atypical Flexner bacillus dysenteriae were made in the laboratory of Professor John Kessel and by Mrs. Hitt of the Brem, Zeiler, Hammack Laboratory, by whose work the preparation of antigen was made possible, and to whom I express my sincere gratitude.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

DIABETIC COMA

ETIOLOGY AND PROGNOSIS

J. W. Sherrill, M. D. (The Scripps Metabolic Clinic, La Jolla). — In reviewing the various phases of diabetes and the vast number of chapters which have been written concerning it, this particular feature of the disease has probably drawn forth the least comment. The principal cause of coma, before the discovery of insulin, may be attributed to improper diet; but today the primary cause may be given as inadequate insulin dosage. This latter factor requires further analysis. The dosage may be inadequate because the patient omitted or lowered the required amount, or because the amount prescribed proved inadequate for the patient's maintenance requirements at the time. Voluntary omission of insulin on the part of the patient, whether through carelessness, disbelief, discouragement, or queer religious tendencies, is one of the commonest causes. The fact that most instances of coma arise during the first or second year after beginning insulin treatment, and that it occurs infrequently in the diabetics under prolonged treatment, is pertinent proof that the diabetic soon adjusts his beliefs concerning insulin efficiency. When one seriously examines any hospital series of diabetic coma cases, the victims of which were previously instructed and previously treated, he is struck by the fact that many of them are due to attempts to exist on too little insulin. The reason for this tendency may be due to fear of overdosage with its consequent reactions, the belief that insulin in large amounts is harmful, or to economic reasons. In teaching patients it is well to encourage them to see how much insulin they are able to take without inducing reactions, rather than to see how little they can use consistent with bare sugar freedom. Our education of the diabetic must not stop with a few preliminary remarks and superficial instruction, but we must adhere to a careful follow-up system; and only after thorough schooling should we permit him to assume the greater part of the responsibilities for himself. Deliberate breaking of diet does not nowadays constitute cause for coma as frequently as in preinsulin days, provided moderate insulin dosage is adhered to, the purloined carbohydrate being one of the saving influences. However, when such indulgences are relentlessly practiced, coma intervenes, and the etiology must be attributed to wanton carelessness. The incidence of coma varies tremendously in various hospitals and clinics, depending upon the type of patients with whom one deals. From an economic standpoint, private patients find it unprofitable to encounter coma, while in some strictly charitable institutions the same patient may be readmitted many times—as many as nineteen in the case reported by Ralli (*Jr. Lab. and Clin. Med.*, 18:1119, 1933).

Infection plays its part in causing coma. The more careless the patient the more frequently this is true. The average patient remembers the previous advice given by the physician, and with the onset of any infection keeps closer check on his condition. Several urine tests are made daily, insulin increased as necessary, and fat in the diet is reduced. Any infection, no matter what its origin, increases the metabolic strain and invites acidosis and coma. Tonsillitis, influenza, cellulitis in any form, carbuncles, otitis media, and appendicitis are among the commonest causes. Gangrene is one of the principal complications which easily induce acidosis and coma.

Coma cannot always be attributed to carelessness in diet. Patients not infrequently are discovered in terminal coma, and diagnosis established short of exitus. In this regard physicians have a responsibility in establishing an early diagnosis. It is to be regretted that some time diabetes may escape the physician's detection for many months. This is especially true in older patients, because the triad—polyuria, polydipsia, or polyphagia—do not occur in all the cases by any means. Their complaints more frequently pertain to weakness, weight loss, visual disturbances, or other symptoms relative to the vascular system.

The dictum, "It is better to prevent coma than to treat it," is self-evident. In broad terms, it has been stated that the prevention of diabetic coma depends directly upon the intelligence of the patient. Hospital expenditures for coma are a needless economic waste in most instances. It is to be regretted that too many of our physicians still look upon diabetes as an uninteresting form of chronic disease, and feel that they have done their duty when they hand the patient an antiquated diet list and give him a recitation concerning the dangers of sugar in the urine. Proper management of diabetes, to prevent acidosis and attempt to offset vascular complications, is a trust and a challenge to any physician.

Prognosis.—Prognosis depends upon whether adequate treatment is instituted early or late. Alertness in giving large doses of insulin at the onset, followed by persistent treatment and constant watching, saves many lives. There is a very narrow margin between severe acidosis and profound coma, and once the condition is permitted to slip past this margin irreversible chemical reactions have occurred and no treatment, no matter how heroic, can alter the course of the disease. Recognition of the early signs of acidosis is important, and we must not forget that many of these signs may be masked. Failure to recognize acidosis is today as medically reprehensible as acute appendicitis unrecognized and unoperated. Prognosis also depends upon frequency of administration of insulin, as well as upon quantity. After an initial large dose of insulin, frequent divided doses are more effective than when given *en masse*. The outlook for the patient with quiet, shallow breathing, listlessness, drowsiness and stupor may be very deceptive, and the prognosis more discouraging than the one with dyspnea, hyperpnea, and a more active demeanor.

From the physiologic standpoint, the most important factor in prognosis depends upon whether or not diuresis can be established. If it cannot the patient must die. The majority of coma patients die of thirst. Too frequently do we see such patients lapse into profound coma for lack of fluids, although large doses of insulin and carbohydrate have been administered. Profound metabolic disturbances accompany severe acidosis; the oxygen consumption is greatly increased, and fluid loss is extreme. The patient is manifestly dehydrated, and water balance is on the negative side. The condition of the patient's cardiovascular state and the method of management of circulatory collapse, if present, are of extreme importance in the matter of recovery. Generalized shock, with low blood pressure, thready pulse, and cold, clammy, moist skin are suggestive signs which rightly invite pessimism. Anuria usually follows, unless every possible precaution is taken.

The prognosis of coma in diabetic children is identical with that of the adult, viz., the promptness with which treatment, if begun, and the adequacy with which it is continued, with the known knowledge that coma occurs more frequently and more easily than adults; just so much more should we be alert to recognize the first signs and institute early treatment. The metabolic rate of children is proportionately higher than adults, which is a factor responsible for the ease with which coma is induced.

* * *

SYMPTOMS AND DIAGNOSIS

H. Clare Shepardson, M. D. (384 Post Street, San Francisco).—Diabetic coma is preventable, and deaths from diabetic coma are needless. Yet too often patients develop coma which remains unrecognized until adequate treatment is impossible. Delay in treatment is the essence of failure; consequently prompt diagnosis of the condition is of vital importance.

Coma attacks the young diabetic and the diabetic who is in the first few years of his disease. Yet, while the adolescent is more prone to develop severe acidosis, no age is exempt. Unfortunately the symptoms of diabetic coma are notoriously vague, so that the diagnosis may often prove elusive. Usually a history of some precipitating factor such as (1) too much food, (2) too little insulin, or (3) infection, can be obtained. And diabetic patients are being so well trained at present that the last of these factors is becoming most important. A patient may be progressing nicely with diet, insulin and exercise well balanced when the development of a carbuncle, pneumonia, upper respiratory infection, or other acute febrile illness may precipitate an acidosis which soon develops into coma. At present, however, irregularities in diet continue to be the predominating cause of coma.

No symptoms occur consistently, but the onset of acidosis is usually accompanied by general malaise, nausea, vomiting, and abdominal pain. If proper treatment is not instituted, the vomiting and abdominal pain continue; the breathing becomes labored; drowsiness, which increases to stupor, appears, and finally coma supervenes.

When first seen the patient in diabetic coma presents a distressing picture. He is stuporous or unconscious, obviously dehydrated, with a cold, dry skin, flushed face, the lips dry and possibly cracked. The tongue and mouth may be heavily coated. Because the body is saturated with ketone bodies, the breath has a sweet, "fruity" odor. Usually there is evidence of severe abdominal pain and, rarely, bizarre athetoid movements may suggest involvement of the central nervous system. The respirations are long, deep and rapid (Kussmaul breathing), and the eyeballs are soft. The extremities are cold, the body temperature—in the absence of accompanying infection—is subnormal. The pulse is rapid, weak and often irregular, and the blood pressure may be markedly depressed.

Probably the most significant sign in diabetic coma is Kussmaul breathing. This "air hunger" type of respiration occurs in some 70 to 80 per cent of patients and is almost diagnostic. Of equal importance, when present, is the soft eyeball. Originally described by Krause (1904), it has been observed repeatedly in a high percentage of cases of diabetic coma. It is unmistakable, and has not been noted in any other condition.

Gastro-intestinal symptoms are almost always present. These may vary from mild nausea and vomiting to severe abdominal pain, and may tend to add confusion to the picture. While acidosis is itself usually responsible for all symptoms referable to the abdomen, the diabetic is not exempt from other diseases which may cause exactly the same symptomatology. Such conditions as duodenal ulcer, especially with perforation, acute appendicitis, cholelithiasis, coronary thrombosis, renal colic, and acute infectious diseases may well occur in the diabetic, and in fact may precipitate the attack of coma.

The laboratory affords valuable aid in the recognition of diabetic coma. The urine almost always contains sugar in varying amounts. The demonstration of acetone and diacetic acid in the urine is of fundamental importance (a very few cases have been reported in which ketonuria was absent), for it can safely be said that diabetic coma cannot exist without the presence of ketone bodies in the urine. In addition, albumin, showers of granular casts, and both erythrocytes and white blood cells are usually found. The concentration of salt and nitrogen are low, and rise with recovery.

Unfortunately the renal damage which occurs in coma may be so severe as to cause anuria. In such cases, fortunately rare, studies of the blood must be made, not only for diagnosis, but treatment as well. The blood sugar in coma is high, although not extraordinarily so; and the degree of hyperglycemia does not parallel the depth of coma. In fact, quite high blood sugars have been recorded without unconsciousness. Values from 300 to 600 milligrams per cent are common; and they may be as high as 1600 to 1700 milligrams per cent.

A much better criterion of the severity of the acidosis apparently is the degree of elevation of the blood lipoids as measured by the cholesterol content of the blood. This latter is uniformly elevated, usually varying from 300 milligrams to 800 milligrams per cent (the normal value varies from 150 to 200 milligrams per cent). However, it should be added that high cholesterol values have been found in diabetics without acidosis (MacGavack and Shepardson).

There is a marked lowering of the carbon dioxid combining power of the blood. In severe cases it may be depressed from the normal value of 50 to 60 volumes per cent to 10 volumes per cent, or lower, and values so low as to preclude accurate reading on the Van Slyke instrument are occasionally obtained.

The nitrogenous elements of the blood stream are increased, sometimes alarmingly; the nonprotein nitrogen is frequently found to be elevated to levels suggesting the presence of actual uremia.

The blood chlorid, which normally varies from 450 to 500 milligrams per cent, is often appreciably lowered, due possibly to the persistent vomiting.

Finally, the cellular elements of the blood are uniformly elevated, although in varying degrees. The erythrocytes are increased relatively little, largely as a result of the dehydration, and there is a corresponding elevation in hemoglobin values. On the other hand, the white blood count may be greatly elevated, the counts varying from normal to as high as 60,000 to 100,000. No adequate explanation has been offered for the tremendous leukocytosis which is sometimes encountered.

That meningeal irritation occasionally occurs is suggested by the rare occurrence of peculiar, unclassified symptoms referable to the central nervous system, and by the finding of an elevated cell count (the highest I have seen has been 350 cells, largely of the polymorphonuclear type) in the spinal fluid.

In many instances an attack of diabetic coma may be unhesitatingly recognized. Yet it should be remembered that an unconscious patient frequently presents a difficult diagnostic problem. Nausea, vomiting, hyperpnea, drowsiness or unconsciousness, hyperglycemia, and ketonuria are the cardinal symptoms and signs of diabetic coma. Consequently history, physical findings, examination of the urine and determination of the blood sugar will permit early diagnosis in almost every instance. Furthermore, the onset of diabetic coma is insidious, coming on over a period of hours or days, a fact which is of considerable importance in differentiating it from insulin shock. The latter is manifested in a matter of minutes, and the symptomatology is usually characteristic: nervousness, sweating, faintness, headache, hunger, and double vision.

Because the patient in diabetic coma is really a patient in shock, with evidence of collapse of the circulatory system, with dyspnea, rapid and often irregular, weak pulse, low blood pressure and subnormal temperature; and because nausea, vomiting, and abdominal pain (together with marked rigidity of the abdominal muscles) are usually present, it is frequently extremely difficult to adequately eliminate the possibility of an intra-abdominal lesion. The lack of fever is of some aid, for most often elevation in body temperature accompanies abdominal emergencies. Then, too, in diabetic coma the leukocyte count is often higher than that found in peritoneal irritation. Parenthetically, it should be stated that if it is felt reasonably certain that an acute lesion of the abdomen exists, immediate operation is the safer procedure. An acute abdominal infection may not only precipitate an attack of coma in the diabetic patient, but prolong it as well.

Acute coronary disease may offer some difficulty, at least until adequate examination of the urine and blood can be made. Likewise a cerebrovascular accident may produce symptoms simulating an attack of coma. Mild acidosis, sufficient to produce ketonuria, is not an uncommon accompaniment of cerebral hemorrhage.

Other conditions, such as body injuries, drug poisoning, meningitis, must be excluded. Uremia especially may be particularly difficult to differentiate. However, the extremely slow onset, the apathy, occipital headache, stertorous breathing (quite unlike the Kussmaul type), full bounding pulse, elevated blood pressure, uremic odor, the muscular twitchings or convulsions, and the usual changes in the eye-grounds, all are valuable differential factors. Then, too, the urine in uremia is most often sugar-free, ketonuria is not usually present, and the carbon dioxid combining power of the blood is rarely below 30 volumes per cent.

It should be realized that an attack of diabetic coma always results from some cause, and, secondly, that acidosis often occurs in a diabetic; but it may be far removed from the degree of intensity characteristic of coma. Hence the finding of a positive Ferric chlorid reaction does not complete the diagnosis. Discover the cause, and the differential diagnosis becomes easy.

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TREATMENT

Bertnard Smith, M.D. (1930 Wilshire Boulevard, Los Angeles).—A patient in diabetic coma is a patient in profound shock, and this critical condition is the more serious because there is present the complication of the disturbance in carbohydrate metabolism. The immediate measures in therapy are those directly important in the treatment of shock. The patient should be placed in a bed warmed by electric blankets, electric pads or hot-water bottles, and particular care should be used to avoid burns. Gastric lavage should be carried out immediately. This will aid in control of the vomiting and serve to correct or avoid any overdistention of the stomach. The lower bowel should be cleared by enema, but this had best be delayed until general supportive treatment has made it safe to disturb the patient. Digitalis, either subcutaneously or intravenously, should be used early, and should usually be continued for some time after the patient is well out of coma. In severe shock, ephedrin may be given intravenously. Caffein sodium benzoate and adrenalin may be of immediate use. The final outcome of treatment may depend largely upon the interval that has elapsed before such therapy is begun.

In the treatment of the underlying fault in carbohydrate metabolism, insulin is always indicated. An immediate subcutaneous injection of twenty to forty units should be given as soon as the patient is seen and the diagnosis is made. Following this, insulin can be given intravenously, in combination with glucose. When anuria is present, the first glucose to be given intravenously should be in a concentration of 50 per cent. This should be warmed, and such volume injected as will supply from ten to twenty grams of glucose. Insulin should be added directly to this glucose solution to supply one unit for every two grams of glucose.

After the anuria has been overcome and the patient is found dehydrated, it is well to give further glucose in solution of 5 or 10 per cent concentration in volume to furnish from 500 to 1000 cubic centimeters of fluid. This glucose is dissolved in normal saline, and insulin may be added to this weaker solution of sugar in the same unit proportion as in the higher concentration. The amount of liquid that can safely be added to the blood stream should be most carefully considered in order to avoid too great strain on the heart Further insulin therapy can be guided by tests of hourly urine specimens, obtained by catheter or by frequent blood-sugar analyses. The blood tests can be made easily, and with no disturbance or distress to the patient, by using the microtechnique, which requires blood only in such amount as can be obtained by the finger prick.

Insulin must be given in sufficient dosage and at such frequent intervals as will give a control of the hyperglycemia present. However, caution is important to avoid too rapid a drop in blood sugar, or forcing the blood sugar down to a level below the essential requirement of the individual patient. A safe guide for the uncomplicated diabetic patient is to consider his blood sugar requirement as the figure that represents his age plus one hundred. When diabetes is complicated by cardiovascular disease, it is wise to consider the normal value ten or twenty points higher. Any diabetic patient in coma should be considered as a cardiac patient until the ketosis is entirely cleared and no evidence remains of myocardial damage.

When the dehydration is extreme, additional measures may be indicated. Normal saline may be given intravenously and by hypodermoclysis. Its value when given per rectum is questionable. With severe anhydremia is associated an accumulation of organic acids in the body fluids, with serious replacement of bicarbonate. The loss in electrolyte balance may be so marked that a satisfactory restoration is not possible, or quickly given through intravenous use of saline, glucose and insulin. Great benefit may be given by intravenous injection of sodium lactate. This requires careful preparation and is used as directed by Hartmann and Senn.[1] The use of from four to seven cubic centimeters of this molar solution per kilogram of body weight will be of particular benefit in those patients where dehydration is extreme and a considerable volume of fluid can be given intravenously. Sodium lactate may be used early in coma treatment, without waiting to see the full effect of the saline and glucose solution. An early rise in blood sugar may be found immediately after the intravenous injection of sodium lactate, and this rise should not be considered an indication for giving additional insulin, since the blood sugar may subside unaided.

The most important part in the treatment of diabetic coma is that of prevention. This can best be met by the thorough teaching of the diabetic patient or the mother of the diabetic child. Dangers of not strictly following diet directions and reducing or stopping insulin cannot be too strongly emphasized. One very common precipitating factor in diabetic coma is the omission of insulin on account of loss of appetite, nausea, or some other symptom that reduces food hunger. Serious danger from acute and even mild infections must be understood and cannot be too often repeated in diabetic teaching.

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[1] A. F. Hartmann and M. J. E. Senn. J. Clin. Investigation, 11:345, 1932.

The Habit of Sleep.—It may be taken as axiomatic that the greatest satisfaction in living comes to those fortunate people who early develop good habits—good habits in the maintenance of bodily economy, thinking, fancy, emotional control.

Recent research has pointed to the midbrain region as being especially involved in the sleep functioning. Also the calcium ions appear to be concerned with the induction of sleep. Yet the question of the causes and mechanism of sleep is still a riddle. Some older theories of sleep described it as a condition forced on the person by toxins arising from fatigue, or other source. Such an explanation failed to take into account the common experience of all, that we generally do not sleep because we are fatigued—in fact, great fatigue often is accompanied by insomnia. It may be that we sleep to avoid fatigue. Sleep is an active process in which the whole personality is engaged.

A restful period before going to bed, isolation from distracting stimuli, a comfortable stomach, enough air in circulation to take care of ordinary oxygen needs as well as the evaporation of perspiration, sufficient covering to keep comfortably warm, a comfortable posture, and then letting go with a naive confidence in the success of the experiment and the satisfaction to be gained by it—and the thing is done.—Wendell Muncie, M. D.

O health! health! the blessing of the rich! the riches of the poor! Who can buy thee at too dear a rate, since there is no enjoying the world without thee? Be then not so sparing of your purses, honorable gentlemen.—Ben Jonson.

CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section (Adv. pages 2, 4 and 6).

CALIFORNIA MEDICAL ASSOCIATION

ROBERT A. PEERS............President
EDWARD M. PALLETTE............President-Elect
FREDERICK C. WARNSHUIS............
Secretary-Treasurer and Associate Editor for California

STATE AND COUNTY SOCIETY ACTIVITIES

NEW REGULATIONS: FEDERAL COMPENSATION COMMISSION

On July 15, 1935, the United States Compensation Commission promulgated new regulations covering compensation and medical treatment for employees of the Works Progress Administration. These regulations are contained in a pamphlet of some fifty or sixty pages and the following are certain outstanding features that are imparted for our members' information and consideration.

1. These regulations cover disability or death or result from traumatic injury sustained while in the performance of their work on the Works Progress Administration.

2. The office of the local or district Works Progress Administration is the central bureau through which contact and instructions should be secured.

3. These employees are entitled to medical and hospital care made necessary by reason of injury.

4. Under no circumstances shall treatment be authorized for illnesses or diseases in any form except as shall naturally result from traumatic injury by accident causing harm or damage to the physical structure of the body.

5. The act provides that medical treatment shall be furnished by United States Medical establishments or hospitals—where practicable—and also provides that these facilities be used to the extent that they are available. In localities where federal medical facilities are not available or where such facilities are not adequate, the State compensation officer, or his local representative, shall make arrangements for medical care by reputable private physicians.

6. The Commission will pay medical fees not in excess of the minimum charge prevailing in the community for similar services.

7. The regulations provide that the State compensation officer or his local representative shall contact the local medical society to enlist their coöperation in selecting physicians who are especially qualified to render service in industrial accident cases. Under no circumstances should there be any discrimination against any physician. Plans should be made to distribute compensation cases in as equitable a manner as possible.

7. The local compensation representative will be required to follow up all cases under private medical care, secure medical reports and to endorse each voucher for medical services before it is forwarded to the State compensation officer.

8. Form C. A.-16 or a letter containing the information required by that form must be issued by the person in charge of a project or the compensation representative in sending an injured employee to a physician or hospital.

9. In general, no hernia operation should be authorized until a report has been rendered to the State compensation officer except that in an emergency due to strangulation, an emergency operation may be authorized by the local representative.

10. Authorization for treatment is issued only to one physician. If a second physician, hospital or nurse is required, the physician is fully authorized to procure such assistance as may deem necessary and they shall be compensated according to local fees.

The foregoing are the general provisions and members are urged to contact those in charge of Works Progress activities in their community in order that medical services required may be arranged for in compliance with the regulations of the Compensation Commission.

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SUGGESTED PROGRAM OF CO-OPERATION BETWEEN THE ORGANIZED MEDICAL PROFESSION AND OFFICIAL HEALTH AGENCIES FOR THE ADVANCEMENT OF PUBLIC HEALTH

More and more each year there has become evident the interest of the practicing physician in preventive medicine and his apparent effort to conduct his practice in a way that will mean most to the welfare of the public in his community. Health officials have long since realized that without the fullest coöperation of the practicing physician, the official health agency cannot be successful in the conduct of its program.

It is proposed, therefore, that a definite program of coöperation be adopted in which the usual health department activities may be directed by the official health agencies and in which the practicing physician will conduct the medical portions of the program. This coöperative effort should be sufficiently broad to cover such activities as community immunization campaign, school medical examinations, infant and preschool health conferences, and other periodic medical examinations.

CAMPAIGN FOR IMMUNIZATION

It is proposed that the Association during the coming fiscal year sponsor throughout the State a definite effort toward immunization of all preschool and school children against diphtheria and smallpox. Such a campaign would be conducted as follows:

1. The local health officer would work in close coöperation with his local county medical society.

2. The health officer would determine the number and location of persons to be immunized and start an immediate program of education directed to those persons.

3. Contact would be made with the medical society leading to an agreement whereby each physician would be willing to accept in his office applicants for immunization. This could probably most effectively be accomplished by setting aside a period of one month during which the physician would agree to immunize anyone in his office for the price of $1.

4. The health officer, through his staff of field nurses, would then acquaint the people of his district with the arrangement that has been made, and make a definite effort to have all unimmunized persons go to their family physician's office for immunization during that period.

5. The health department would furnish materials necessary for immunization as required by each physician. In return for this assistance from the health department, the physician should immunize those unable to pay without charge.

The above plan, if carried out, should be very valuable to the health agency in accomplishing immunization of large numbers of children who otherwise could not be reached. The plan should be attractive to the practicing physician because it not only preserves the contact between his office and his private patients, but refers to him persons who have not formerly been members of his clientele. Furnishing of material by the health department is very properly in line with the health department's policy to carry out this phase of disease prevention, and gives the physician an opportunity to undertake such a campaign without cost to himself. Such a campaign entered into wholeheartedly by both the official health agency and the county medical society should do much to forward the activities of the program for the health of the community in which both agencies are vitally interested.

Our Association's Committee on Health and Public Instruction recommends the above plan for consideration and adoption by county societies. It should be perceived that this plan returns to the family physician the rendering of preventive treatment.

It might be well to also give consideration to establishing a "health hour" in every physician's office on one or two afternoons each week. Announce to the public that during this hour patients may come in for immunizations and examinations for a charge of $1. The physician would render service during this hour much as he would in a school or hospital clinic. New Jersey and Detroit have developed this health hour with marked success. Many doctors have been known to collect $15 to $25 during this hour—an income source that had been neglected.

The Committee on Health and Public Instruction requests that county societies adopt this suggestion and initiate it in their county.

* * *

"KEEPING UP"

"Much has been written and said relative to the importance of postgraduate medical education. It *is* important. The physician who fails to keep up with his colleagues in their pursuit of new information and knowledge fails in his obligation to his patients and himself.

"For some reason, however, many who have spoken or written on the subject have made it appear as if continuation of medical education is an arduous undertaking—something that requires the expending of large amounts of time, energy and money; travel to foreign lands. Can this be so? We believe not."

The above extract from the *Ohio State Journal* is answered by our Association's program for district postgraduate conferences that will be inaugurated this fall in the several councilor districts. The Medical Department of the University of California made available such conferences in several counties and was the pioneer of this educational movement in California. The University will this year coöperate with and conform to the Association's program.

With four readily accessible medical colleges in the State, with their announced postgraduate courses, with our planned district conferences and with our many county and State medical meetings, a physician no longer has the excuse that he has not the time or money to keep up with his colleagues. Plan to attend these sessions.

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EXTENSION EDUCATION IN PHYSICAL THERAPY

One of the aims of the Council on Physical Therapy of the American Medical Association is to promote extension education in physical therapy.

The Committee on Education of the Council believes that one of the best ways of extending postgraduate instruction in physical therapy is to arrange for practical talks to be given before state, county or other medical societies. Experience, especially in New York and Pennsylvania, has shown that such programs are eagerly received by the profession.

The Council is prepared to assist medical societies by furnishing general advice as to programs and by suggesting qualified personnel.

The following topics are offered as being of interest to the general practitioner: The present status of physical therapy; physical therapy in general practice; body mechanics and posture training; massage—indications and effects; pathological conditions helped by physical therapy; therapeutic exercise; radiation therapy; hydrotherapy; fever therapy; diathermy, medical and surgical, including short wave.

Motion pictures on the following subjects are available for loan: Massage—technique; graduated active motion; occupational therapy; effects of heat and cold on blood circulation; effects of massage on blood circulation.

In addition, exhibits on physical therapy can be arranged in conjunction with the Committee on Scientific Exhibit, available on request.

Anyone desiring help in program planning or loans of films or exhibits is advised to write the Secretary, Council on Physical Therapy, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

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FROZEN MONKEYS AND MEN!

The publicity given to the restoration to life of an allegedly frozen monkey and the proposal of a certain individual to submit himself to a similar test is, at its best, a bid for sensational publicity. It is contrary to the precedents established by scientific research workers. The fundamental premise is open to criticism.

This unwarranted publicity is deplored by the officers of the California Medical Association. It is recommended that further publicity be discontinued till such time when the recognized scientists and research workers of State institutions are willing and able to attest to the merit and value of such an experiment—if this instance justifies being classified as an experiment conducted in the interests of science and public health.

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"BENEFIT" ORGANIZATIONS

Section 4 of Article 6 of the Principles of Medical Ethics reads as follows: "It is unprofessional for a physician to dispose of his professional attainments or services to any lay body, organization, group or individual, by whatever name called; or however organized under terms or conditions which permit a direct profit from the fees, salary or compensation received to the lay body or individual employing him. Such a procedure is beneath the dignity of professional practice, is unfair competition with the profession at large, is harmful alike to the profession of medicine and the welfare of the people, and is against sound public policy."

In several localities of the State approach has been made recently to individual doctors and small groups by representatives of "Benefit" and "Welfare" organizations of certain industries. Their quest is to secure medical services at a very material reduction of fees for their members. Our members are advised to decline to enter into any such agreement.

Judgment should not be obscured by immediate, temporary or local results. Just because a lay group has formed a "benefit" organization it does not follow that they are entitled to special consideration. Physicians making these concessions to a group will soon find that their private patients will resent this favoritism and demand that they be charged for services at these reduced fees. Other untoward results will also ensue. The advice is repeated, do not yield to such solicitation.

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The following correspondence is explanatory of the above policy:

Benjamin H. Dibblee, Esq.,
President, Board of Directors,
St. Luke's Hospital,
Twenty-seventh and Valencia streets,
San Francisco, California.

Dear Sir:

Replying to your request for a ruling from the California Medical Association as to what constitutes the practice of medicine, it is impossible for the California Medical Association to give a "ruling." This is the province of the State Board of Medical Examiners and the courts of the State of California. However, the position of the California Medical Association is that:

1. As provided by the Medical Practice Act, Section 8, only the holder of a physician's and surgeon's certificate is entitled "to use drugs or what are known as medical preparations in or upon human beings and to use any and all other methods in the treatment of diseases, injuries, deformities, or other physical or mental conditions." Said act, Section 17, expressly provides that: "Any person who shall practice or attempt to practice, . . . or who shall diagnose, treat, operate for, or prescribe for any ailment, blemish, deformity, disease, disfigurement, disorder, injury or other mental or physical condition of any person without at the time holding a valid, unrevoked physician's and surgeon's certificate shall be guilty of a misdemeanor."

2. The use by the holder of any such certificate of any fictitious name or any name other than his own is prohibited as provided in Section 14 of the Act. This and other portions of this Act and other laws have been construed by the Supreme Court of this State to prohibit the furnishing of the services of a physician, a lawyer or dentist by any unlicensed person or corporation.

The California Medical Association in the proceedings of its deliberative and executive bodies has repeatedly held, in strict accordance with the law, and published in its official journal, California and Western Medicine, that all of the procedures of both roentgenology and pathology constitute the practice of medicine and fall within the law as above stated. An examination of the law and knowledge of the practice demonstrate that these specialties include either the penetration of human tissue or the application to the human body of prescribed doses of highly dangerous physical agents, to wit, the roentgen ray or other radiant energy.

We are enclosing copies of two resolutions which express the attitude of the California Medical Association toward the practice of these two specialties.

Will you kindly advise if we can be of any further assistance.

Yours very truly,
(Signed) F. C. Warnshuis, M. D.,
Secretary.

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CALIFORNIA MEDICAL ASSOCIATION

July 17, 1935.

To the President of the Board, and Superintendent of the Hospital.

Sir:

Pursuant to the action of the House of Delegates of the California Medical Association, I am inviting your attention to the following resolution that was adopted at our annual meeting held in Yosemite, May 15, 1935:

Whereas, The California Medical Association is of the firm and unalterable opinion that the practice of medicine at all times should be confined to duly licensed physicians, and that it recognizes the practice of radiology and clinical pathology as the practice of medicine; and

Whereas, The California Medical Association is of the opinion that a hospital conducting a department of radiology and/or clinical pathology should do so only to the interest of the patient and not for the purpose of profit, and that every hospital should bear in mind that in arranging for diagnostic and/or therapeutic services by such departments it does so as a matter of convenience and not as an essential right; therefore, be it

Resolved, That the Council of the California Medical Association be and is hereby authorized to take such steps as it sees fit to establish mutually equitable relations between hospitals, radiologists and clinical pathologists to the end that the practice of medicine shall be conducted by physicians and not by hospitals; provided, however, that the California Medical Association is unalterably opposed to the division of any branch of medical practice, such as radiology or pathology, into technical and professional portions; and be it further

Resolved, That the Secretary of the California Medical Association be and hereby is directed to send a copy of this resolution to each of the several hospitals in the State.

May I respectfully request that the governing body and officers of your hospital give consideration to these recommendations and advise me of the action that is recorded.

Respectfully yours,
(Signed) F. C. Warnshuis, M. D.,
Secretary.

* * *

CORPORATE PRACTICE OF MEDICINE, 220TH COUNCIL, SEPTEMBER 30, 1933

Doctor Ullmann stated that he believed the Council should clarify the relationship of x-ray and laboratory men in hospitals so that in all cases their practice would conform to the legal requirements regulating the practice of medicine, which prohibits corporate practice. Doctor Ullmann then stated that the roentgenologist is a consultant; that the hospital furnishes the equipment and that it is entitled to a fair return on its investment, rental of space, actual expense involved in janitor service, lighting, etc., and obsolescence of equipment.

Action by the Council: On motion of Doctor Ullman, seconded by Doctor Toland and unanimously carried, the following resolution was adopted:

Whereas, Roentgenologists and other doctors of medicine in charge of roentgen and pathological laboratories are consultants in medicine and not technicians in that they make reports of their interpretations of the results of the examinations; and

Whereas, Such reports are as much a part of the practice of medicine as the interpretation of the results of a physical examination; and

Whereas, It is the practice in many hospitals and other institutions to employ roentgenologists and pathologists to render such medical service for which the hospital collects a fee and profits financially thereby; and

Whereas, Such practice of selling or furnishing medical and surgical consultation to hospitals or other corporations is contrary to the laws of the State of California and the principles of the California Medical Association; therefore, be it

Resolved, That the Council of the California Medical Association deprecates such practice and recommends that as soon as practicable hospitals and other institutions make such arrangements with their attending roentgenologists and pathologists that they shall be in every way on the same financial status as the other members of the staff and that the Department of Public Relations start negotiations to bring this about.

* * *

The following communication is also related to this question and policy.

St. Lukes Hospital
Twenty-Seventh and Valencia Streets
San Francisco

March 1, 1934.

Secretary,
California Medical Association,
450 Sutter,
San Francisco, California.

Dear Doctor Pope:

Paragraph 14 (Corporate Practice of Medicine), minutes 220th meeting of the Council of the California Medical Association, has just come to our attention.

St. Luke's Hospital agrees thoroughly with the stand taken by the Council. We wish to say that nothing in the way of correcting violations of the Medical Practice Act, or in the way of meeting the wishes of the Medical Association, regarding contract practice, exploitation of medical men, et cetera, are impossible of accomplishment. We desire definite instructions regarding such changes and corrections as are to be made in the present relation of the hospital to medical men engaged in carrying on hospital work at St. Luke's Hospital, and hope you will send us at your earliest convenience such rulings as will enable us to meet all requirements for proper consideration of the rights of medical men engaged in the performance of necessary hospital work.

X-ray and pathologists have themselves prescribed the provisions of the arrangement under which they work here. This arrangement includes a guaranteed salary, plus a percentage of, or commission on the amount of work performed in their department, and accords with practices and customs developed and established under the guidance and observation of ethical representatives of the medical profession.

Anesthetists have for more than ten years submitted their own bills for professional services, without any connection whatever with the hospital. All anesthetists here, for years have been doctors of medicine, specializing in anesthesia. Some years ago, as a result of the anesthetist's inability to collect from his patient, the chief anesthetists requested the privilege of having anesthetic bills collected for anesthetists by the hospital. This request was granted by the hospital, though it was recognized that the practice of collecting doctors' bills as hospital bills militated against the best interests of the hospital and other medical men in attendance upon the patient, who manifestly could not be given the privilege accorded the anesthetists. The same difficulty, from the standpoint of the hospital, applies to the collection of salaries and commissions for roentgenologists and pathologists. If these, too, could be removed from the hospital bill, hospitalization could be furnished patients at a sum considerably less than that now charged.

May we assure you of our hearty coöperation in the attempt to eradicate exploitation of medical men and contract practice here and in other places where these vicious practices exist in aggravated forms, many of them under the supervision of medical men themselves.

Very sincerely,
(Signed) Howard H. Johnson, M. D.,
Director.

"CHANGE OF EVENTS"

Warbasse makes the following comment. It is a thought worth pondering upon.

"The medical profession can not afford to close its eyes to facts. Some form of socialization of medicine is coming. The evidence is everywhere to be seen. Nothing is to be gained by denying the obvious. The physician may guide this trend and modify it, but it is doubtful if he can check a tendency that is moving in the direction of a social need. By helping to direct it physicians may prevent this socialization of medicine from becoming political. It is state control and administration that excite the alarm of many fair minded doctors. But the socialization of medicine does not mean necessarily political socialization. It only means the development of medical service as a social rather than as a commercial enterprise, and its organization in such a way as to make it more easily available to all elements of society. This is obviously for the public good, and it should be for the advantage of medicine.

". . . It is obvious that, if the medical profession does not plan its own course, the people themselves will make the change.

". . . As to the medical profession, we have seen that it always moved slowly in the great social changes, and has followed the trend of things rather than lead."

* * *

MEDICAL SERVICES IN WORKS PROGRESS ADMINISTRATION

The following communication has been sent to county officers:

August 10, 1935.

To the Secretary,
County Medical Association,
City.

Dear Doctor:

In accordance with paragraph 10, Rules and Regulations No. 1 of the United States Employees' Compensation Commission, governing compensation and medical expense for the Works Progress Administration, I am enlisting your assistance in naming physicians in the locality covered by your association who are specially qualified by training and experience to render service in industrial accident cases and who desire to participate under the regulations of the commission.

The essential information in the above Rules and Regulations, as pertains to physicians, has been summarized in the August 3, 1935, issue of the *Journal of the American Medical Association*, pages 373 and 374.

Will you kindly submit a list as soon as possible to include the names and addresses of suitable physicians, both members and non-members of your association, with the following points in mind:

1. Is the doctor qualified to handle industrial cases?
2. Is he willing to handle cases for medical fees not in excess of the minimum charge prevailing in the community for similar services?
3. As regards a non-member, is he a graduate of a recognized medical school with a degree of M. D., licensed to practice medicine in California?

It is to be understood that the omission of any qualified physician from your list does not exclude him from handling cases, but we shall be primarily guided by such list and ask your fullest coöperation for its completeness.

Yours very truly,
BARTLE M. HARVEY,
Acting State Compensation Officer, W. P. A.,
San Francisco.

* * *

C. M. A. COMMITTEE ON PHYSICAL THERAPY ANNUAL REPORT

To the Council of the California Medical Association:

The work of your committee again has shown gratifying progress during the year, which is the third of its existence.

It is still the belief of the committee that we must continue with our program of education for the profession and laity before legislation is considered. We have a feeling, at least so far as our contacts are concerned with various medical groups, that there is a gradual trend toward a deeper appreciation of physical therapy, and many more physicians and hospitals are using intelligently more physical remedial agents than before.

Throughout the past year members of your committee have appeared before many state, county and local medical societies, and staffs of hospitals, with the presentation of papers of scientific and educational interest in physical therapy. Also, papers have been given before national gatherings of physical therapy groups, and now by the addition of a physical therapy division of the Pan-American Medical Association which sails for Rio de Janeiro in July, California will be represented, one of your committee being vice-president of the physical therapy division. The reports from the special committees on physical therapy, appointed by fifteen local county medical societies to coöperate with the state committees on physical therapy, are to the effect that they are still active and very coöperative with the state committee.

Throughout the year we have acted in an unofficial liaison capacity in lending our coöperation and aid to the Council on Physical Therapy of the American Medical Association who, in turn, have been of invaluable assistance in carrying out our program on education here.

In all our lectures, papers and inquiries we have stressed and emphasized that no physician or hospital should purchase physical therapy equipment unless it has the official stamp of approval of the Council of Physical Therapy of the American Medical Association. If such acceptance has not been granted to a particular type of apparatus, we have urged manufacturers to show their good will and confidence in their apparatus by at least submitting it.

The shortwave diathermy "treatment" has exhibited, only too clearly, how easily the profession will take on a method when popularized by smart salesmen, while their training in technique, physics and therapeutic possibilities of the apparatus is only what the salesmen themselves tell them.

No shortwave diathermy apparatus has yet been approved or evaluated by the Council on Physical Therapy of the American Medical Association, and there are rumors of dangerous equipment being injudiciously applied by unskilled members of the regular profession. Unquestionably, there are many safe machines offered to the profession, and the possibilities of their therapeutic usefulness will be great, but to date further scientific confirmation is needed.

The above statement is one of the reasons for your state committee. Also, it is a reason why the chairmen of different sections should grant at least one paper a year bearing on physical therapy as related to their specially prepared state programs. This year, the sectional chairmen turned deaf ears to our pleas; as a result, no paper on physical therapy appears on your state program.

In making such a request it was understood that only committee-censored papers by outstanding men would be submitted; we hope for better coöperation this year. We have not asked for a special section for physical therapy, because we felt the above method would be a more universal source of information.

A questionnaire was sent to fifty-one California hospitals, with twenty-six replies received from nineteen large eastern hospitals. A tabulated list of questions and replies is herewith attached to this report. (These charts are not included for the publication.) The present consensus of hospitals made by the Council of Medical Education and Hospitals of the American Medical Association (J. A. M. A., Vol. 104, No. 13), shows that 2,008, or 31.7 per cent of hospitals have physical therapy departments, as compared with 2,091, or 30.7 per cent of hospitals then existing.

California ranks fourth in having 130 hospitals with physical therapy departments; New York leads with 237, Pennsylvania comes along with 143, and Illinois has 134.

In California, of the twenty-six hospitals answering the questionnaire:

1. Is it under the direction of a full-time physician trained in physical therapy:

11 answered—Yes;
2 said employ physicians part time; and
13 are in charge of a technician.

By the nineteen large eastern hospitals answering the same questionnaire, it was stated that:

11 have full-time physicians in charge;
6 have part-time physicians in charge;
2 have technicians in charge.

In answer to the question, Are cases sent to physical therapy department from other parts of hospital with definite prescriptions for treatment? Of

26 California hospitals—22 answered Yes;
19 eastern hospitals—7 answered Yes.

To the question, Many physicians object when a patient is referred to a physical therapy department for treatment to having the treatment outlined by the physician in charge of the department—do you have this difficulty? Of

26 California hospitals—20 answered Yes, 6 did not reply;

19 eastern hospitals—5 answered Yes, 2 gave no answer, and there were 12 answers, No.

To the question, What is your estimate of total percentage of the patients in the hospital that should go or be referred to the physical therapy department?

From 26 California hospitals, the reports varied from 6 to 50 per cent, with a rough average, 10 per cent;

From 19 eastern hospitals, the reports varied from 5 to 50 per cent, with a rough average, 20 per cent.

To the question, Have you any statistics to show that physical therapy has shortened the disability or hospital days of patients treated?

In the California or eastern hospitals most reported that definite statistics were lacking, but the general concensus of opinion was that disability was shortened to some extent.

SCHOOLS FOR PHYSICAL THERAPY TECHNICIANS

We require nurses to be trained, to have a degree and be registered; why not physical therapy technicians? One of your committee is a member of the American Registry of Physical Therapy Technicians.

The status of movement is as follows (to quote the *Journal of the American Medical Association,* Vol. 104, No. 13): "The Council on Physical Therapy and the Council on Medical Education and Hospitals of the American Medical Association have been lending their coöperation to the Congress of Physical Therapy in the formulation of proper standards for the Registry of Physical Therapy Technicians.

"The Board of Trustees of the American Medical Association, in 1934, was directed to effect, if feasible, some plan for rating schools for physical therapy technicians. The trustees passed the matter on to the Council on Medical Education and Hospitals.

"The council has inspected thirty out of the forty-three existing schools. On the completion of this survey, the council, together with the representatives of the American Physiotherapy Association, the Congress of Physical Therapy and the Council on Physical Therapy will formulate proper educational requirements and essentials for approved schools of physical therapy. When these essentials are approved by the House of Delegates of the American Medical Association, a list of approved schools for physical therapy technicians will be prepared."

In closing, we wish to quote from the *Journal of the American Medical Association,* June 34, Vol. 102, which speaks of your special committee of California State Medical Association as follows: "The purpose and achievements of this committee are commendable. The Council on Physical Therapy hopes that more state medical societies will follow the example of the California State Medical Association by establishing special committees on physical therapy with the aim of coöperation with the Council on Physical Therapy in a program intended to lead to fuller appreciation of the importance and use of physical therapy in the treatment of disease."

If the council so chooses to continue the Special Committee on Physical Therapy, we shall be very glad to carry on in an effort to normalize physical therapy practice in California and to coöperate with the Council of Physical Therapy of the American Medical Association.

Respectfully submitted,

John Severy Hibben, M. D., *Chairman*
Harry Leslie Langnecker, M. D.
Charles L. Lowman, M. D.
Howard C. Naffziger, M. D.
Rodney F. Atsatt, M. D.

COMPONENT COUNTY MEDICAL SOCIETIES

MENDOCINO-LAKE COUNTY

The first meeting of the Mendocino-Lake County Medical Society met at Clear Lake Lodge on August 4, 1935. A dinner preceded the meeting, which was well attended by many physicians from both counties and their wives, as well as officials from the California Medical Association.

Guests were: Dr. Robert Peers of Colfax, president of the California Medical Association; Dr. Junius Harris of Sacramento, Doctor Gundrum of Sacramento, Dr. Henry Rogers of Petaluma, and Doctor Peoples of Petaluma.

Dr. R. A. Cushman acted as chairman of the Program Committee and introduced our distinguished guests. Doctor Rogers presented the Society with the new Mendocino-Lake County Charter. Doctor Peers spoke on the benefits and necessity of organization among the medical profession, as well as reporting on the activities of the California Medical Association, with special reference to the societies in the smaller counties. Doctor Harris gave a very vivid description of the work he had been doing in Sacramento regarding medical legislation. Doctor Gundrum spoke on the postgraduate course to be given and also upon the functions of the societies in the smaller counties.

The meeting was one of the most successful ever held in this locality. Considerable enthusiasm was shown by all of the physicians present.

Joseph J. Kirwin, *Secretary.*

* * *

To the Secretary of the California Medical Association: The Mendocino-Lake County Society held its meeting at Clear Lake Lodge, Sunday, August 4, 1935.

Dr. R. B. Toller presiding, Dr. R. Cushman acting as toastmaster. There were thirty-six members and ladies present, and all seemed to enjoy themselves immensely. Dr. R. Peers, Dr. J. Harris, Dr. F. Gundrum and Dr. S. Peoples all gave instructive talks on the California Medical Association, the legislative program and the postgraduate situation.

Your councilor presented the Society with their new charter. This is the first time in the history of the Mendocino-Lake County Society that any official of the California Medical Association, except the councilor, has been present at one of their meetings. They very greatly appreciated the presence of Doctor Peers and Doctor Harris. Henry S. Rogers.

SAN BERNARDINO COUNTY

A special meeting of the San Bernardino County Medical Society was held at the College of Medical Evangelists in Loma Linda on Tuesday evening, July 23, 1935. About thirty-five members were present.

The secretary read the minutes of previous committee meetings, to inform the members of the processes of drawing up the Statement of Policy.

The president enlarged upon the minutes, following which the Statement of Policy was read by the secretary.

Considerable discussion followed, and numerous questions answered.

It was moved by Doctor Wylie, seconded by Doctor Baird, that the Society endorse this Statement of Policy and that a committee present it to the board of supervisors and the Medical Advisory Board at a joint meeting. A standing vote was unanimously in favor of the motion.

A letter from Doctor Warnshuis in regard to the Emergency Corps in the Fire Fighting Patrol was read. A. E. Varden, *Secretary.*

VENTURA COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Ventura County Medical Society was held on July 9, 1935, in the County Clinic Building.

Guests: Doctors Eder, Streaker and Ullmann of Santa Barbara.

Meeting was called to order by Doctor Strong. Dr. C. Smolt and Doctor Coffey were appointed to revise our constitution and by-laws to conform to the standard approved by the California Medical Association. Another call for speakers to help with the public educational program met with no response.

Doctor Strong then introduced Dr. Lawrence Eder of Santa Barbara, who gave a very practical and instructive talk on *Leukorrhea.*

A. A. Morrison, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (42)

Alameda County.—Carmen T. Boscoe, Joseph D. Coate, Elmer G. Fletcher.

Los Angeles County—

Ralph W. Allen
H. W. Amyes
Kennerley C. Ashley
Clarence V. Atteberry
Russell T. Bergman
Aladar Brull
Everett S. Cassady
Terence T. Cunningham
Charles V. Emerson
H. L. Gotfredson
Charles A. Graves
Lloyd R. Hershberger
Paul V. Jameson
James K. Johnson
Evan M. Jones
Raymond Kay
N. Curtis King
Clinton G. Lumley
Adolph Natzler
Lorin G. Nelson
George E. Norwood
Malcolm H. Redmond
Irving E. Sauber
W. G. Scanlon
Charles F. Schmid
Lysle O. Shaw
Karl L. Sicherman
John S. Simms
Ben H. Smith
Robert G. Stern
Joseph H. Stickler
Arthur O. Turbow
E. H. Yoder

San Bernardino County.—William T. Engleman, John H. Hooval.

San Diego County.—James W. Ravenscroft.

San Francisco County.—Edgar A. Wayburn.

San Mateo County.—Karolina B. Jump.

Santa Clara County.—Thomas F. Conroy.

Transferred (2)

Vernon L. Evans, from Los Angeles County to San Luis Obispo County.

Ralph M. Smith, from Riverside County to Los Angeles County.

In Memoriam

Calder, Daniel Hamer. Died at Los Angeles, July 18, 1935, age 63. Graduate of the University of Vermont College of Medicine, Burlington, 1895. Licensed in California in 1900. Doctor Calder was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✠

Baxter, Donald Erskine. Died at Leaburg, Oregon, July 30, 1935, age 53. Graduate of the University of Louisiana School of Medicine, Kentucky, 1909. Licensed in California in 1920. Doctor Baxter was a member of the Los Angeles County Medical Association, the California Medical Association and a Fellow of the American Medical Association.

✠

Garcelon, Harris. Died at San Bernardino, August 1, 1935, age 55. Graduate of the University of Southern California School of Medicine, Los Angeles, 1904, and licensed in California the same year. Doctor Garcelon was a member of the San Bernardino County Medical Society, the California Medical Association, and the American Medical Association.

✠

Macrae, Annie D. Died at San Francisco, April 23, 1935, age 62. Graduate of Cooper Medical College, San Francisco, 1907. Licensed in California in 1909. Doctor Macrae was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✠

McNamara, Thaddeus M., Jr. Died at Bakersfield, July 15, 1935, age 55. Graduate of Cooper Medical College, 1905, and licensed in California the same year. Doctor McNamara was a member of the Kern County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✠

Ruediger, Gustav Ferdinand. Died at Pasadena, July 6, 1935, age 59. Graduate of Rush Medical College, 1903. Licensed in California in 1921. Doctor Ruediger was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Stern, Arthur Alonzo. Died at Sacramento, July 11, 1935, age 69. Graduate of the University of California Medical School, San Francisco, 1896, and licensed in California the same year. Doctor Stern was a member of the Sacramento Society for Medical Improvement, the California Medical Association, and the American Medical Association.

✠

Van Zwalenburg, Cornelius. Died at Riverside, July 23, 1935, age 73. Graduate of the University of Michigan Medical School, Ann Arbor, 1885. Licensed in California in 1900. Doctor Van Zwalenburg was a member of the Riverside County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARY

Cornelius Van Zwalenburg

1862-1935

Past president, Dr. Cornelius Van Zwalenburg, was taken with a heart attack on July 23 while playing golf, and died within a few moments after reaching the hospital.

In his passing, the California Medical Association has lost another of its older members, one of the group that laid the foundation for the Association's present size, strength and usefulness. Doctor Van Zwalenburg was a leader at the time of the reorganization of the county, state and national units, which are now functioning with such efficiency. We owe much to him and the men with him in leadership at that time.

Doctor Van Zwalenburg was graduated from the University of Michigan, School of Medicine, in 1885. He practiced his profession in Kalamazoo, Michigan, until 1900, in which year he came to Riverside, and soon became established in a busy practice of medicine and surgery. He immediately became identified with both local and state societies. He gave himself unsparingly in furthering the advancement of scientific medicine, and was honored by his colleagues by election to the presidency of the Riverside County Medical Society, the Southern California Medical Society, and the California Medical Association, and he also served as delegate to the American Medical Association. He was an early member of the American College of Surgeons. He was a methodical, patient investigator of scientific problems. His studies on local circulatory stasis, as a cause of acute appendicitis and dehydration in heat exhaustion, were noteworthy and of great value.

He had always been a useful citizen; and having largely retired from the active practice of his profession in his later years, he took delight in serving his community. As president of the Chamber of Commerce, chairman of the Community Chest, trustee and worker in his church, director of a bank, member of the governing board of the Patton State Hospital and many other endeavors, he served his community long, unselfishly, and well.

Doctor Van, as he was affectionately called by his friends, will be tremendously missed. His life provides an example of devotion to the high ideals of service that should be an inspiration to the men of our profession who are now carrying on. He was a good husband, father, friend, physician and citizen—we pay him tribute and farewell.

RESOLUTIONS

WHEREAS, That the medical profession, in the passing of Dr. C. Van Zwalenburg, has lost one of its loyal and faithful members and workers. Doctor Van was an indefatigable worker in his county, state and national medical organizations. He was a charter member of the American College of Surgeons. Doctor Van's research into the hydraulics of appendicitis and the processes of general abscess formation and his contributions to medical literature are outstanding and caused commendatory comment both at home and abroad; and

WHEREAS, Doctor Van's example of earnest and untiring persistent endeavor to improve the character of medical services rendered to the community sets a high standard and example for those of us who are privileged to carry on; therefore, be it

Resolved, By the Riverside County Medical Society that we express to Mrs. Van Zwalenburg and family these sentiments of high regard and esteem, and our sincere sympathy for them in their loss and ours.

BON O. ADAMS, M. D.,
W. W. ROBLEE, M. D.,
Committee.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS*

Health Welfare Exhibits

For some years the Association has been conducting an exhibit at the State and Los Angeles Fairs. These fairs are of but short duration, only a certain class of people attend, and the health educational value of these exhibits is quite limited.

After a review and study of our experiences with fair exhibits and the expense entailed, the Committee on Public Relations came to the conclusion that under a new program more could be accomplished and that our educational health program would be more sustained, would contact a larger number of persons and would awaken community interest.

The committee consequently determined upon the following program:

In coöperation with county societies, woman's auxiliaries, local parent-teachers, granges, junior leagues, luncheon clubs and similar lay organizations, a series of public health days and exhibits would be sponsored in selected centers in the State.

A central auditorium will be used. A series of some twenty to thirty booths will be installed. These booths will be built so that their contents will convey a visual presentation of health facts of an educational nature upon such subjects as: Maternal welfare, child welfare, preventive medicine, cancer, diphtheria, appendicitis, drugs, basic sciences, heart disease, tuberculosis, and allied subjects. The local health officers and school nurses will be invited to erect booths to demonstrate their local functions. To add interest the Boy Scouts, Camp Fire Girls, and Red Cross will be invited to do likewise. An invitation to the dentists will also be extended.

Community interest will be awakened through these local organizations and press. These health days will cover from one to three-day periods or "stands." During the morning and afternoon there will be several short talks and demonstrations and in the evening there will be a health lecture. Such is the general plan and program.

The first health day will be held in Oakland, where local committees are now making detailed preparation. Other places and dates will be arranged so as to cover most all of the State. The Committee on Public Relations believes that this program will accomplish much in bringing scientific medical facts to a large number of people and so enhance their health welfare. This is one of the Association's major activities during this fall and coming year.

* * *

DEAN HOBBS BLANCHARD MEMORIAL LIBRARY
SANTA PAULA, CALIFORNIA

August 9, 1935.

Dear Doctor Warnshuis:

I have just received the bibliographies sent by you as director of the California Medical Association, and I want to thank you for them. You don't know what a help it is going to be in buying, or borrowing from the State Library. Lists by *experts* are so much more valuable to us than our patrons' own requests. If you have any suggestions as to the part a library can play in the matter of public and private health, I shall be glad to coöperate.

Very truly yours,
GLADYS B. KENNEDY,
City Librarian.

* * *

HEMET PUBLIC LIBRARY
HEMET, CALIFORNIA

August 9, 1935.

My dear Doctor Warnshuis:

We have just received the very comprehensive bibliography compiled by your department of the California Medical Association.

It is an excellent and useful piece of work, and only a librarian can understand just how much work went into its preparation. A few very recent books might be included, which are not listed, however.

One thing I should like, whenever it is available, *i. e.,* the Alameda County plan for public health insurance. Also the San Diego County plan, when it is in print.

Thanking you for the bibliography, and also for filling my other request, I am

Yours most sincerely,
(MRS.) ALICE C. MATHERS,
Librarian.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

MRS. THOMAS J. CLARK...President
MRS. ELMER BELT.......Editor and Chairman of Publicity

Echoes from the Convention at Atlantic City

REPORT OF THE CALIFORNIA PRESIDENT

Dear Auxiliary Members:

The thirteenth annual meeting of the Woman's Auxiliary to the American Medical Association was held at Atlantic City, New Jersey, from June 10 to 14. This year the American Medical Association held a joint meeting with the Canadian Medical Association. This gave the Woman's Auxiliary the pleasant privilege of having the Canadian wives who attended the convention as their guests.

The headquarters were held in the Traymore Hotel. In this spacious hotel facing the famous Boardwalk, the women were provided with ample space for registration and exhibits on the main floor and on the eighth floor the lovely library, overlooking the Atlantic, was used for our board and general meetings.

Pennsylvania and Delaware joined with New Jersey in acting as hostesses, with Mrs. Samuel L. Salasin of New Jersey as general chairman of arrangements. The credential booth was opened on Sunday afternoon, June 9. The very efficient manner in which this work was performed right on the start, made one feel that the whole program would be carried out in a very creditable manner. When the convention closed we were of the same opinion.

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* The complete roster of the Committee on Public Relations is printed on page 2 of the front advertising section of each issue. Dr. Charles A. Dukes of Oakland is the chairman, and Dr. F. C. Warnshuis is the secretary. Component County Societies and California Medical Association members are invited to present their problems to the committee. All communications should be sent to the director of the department, Dr. F. C. Warnshuis, Room 2004, Four Fifty Sutter Street, San Francisco.

* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

Invitations for a dinner on Sunday evening, given by the Auxiliary of Delaware honoring Mrs. Robert Tomlinson, had been issued to board members well in advance. It was held at the Claridge Hotel with Mrs. Harry C. Buckmaster as chairman. Mrs. McDaniel, president of Delaware Auxiliary, presided. The Mayor of Wilmington, the Honorable William Speir, gave the address. Mrs. Walter L. Bierring was a guest. Mrs. Tomlinson gave an appropriate acknowledgment of the courtesy bestowed upon her. It was a most enjoyable affair as it gave the board members and the state presidents, who are so scattered, a chance to get acquainted early during the convention. Personally, I feel that I made the acquaintance of two particularly fine women whose friendship I shall always esteem.

Monday morning greeted us with a fine downpour of rain which continued for two days. The hostesses were somewhat annoyed but it was welcomed with pleasure by your State President, who loves cool weather and dislikes heat. This rain did not dampen the interest of the meetings, however.

The real activities of the Woman's Auxiliary, both for work and play, started on Monday morning. In the library of the Traymore Hotel, Mrs. Tomlinson opened the pre-convention board meeting with a prayer which was followed by roll call and the usual procedure for a board meeting, consisting chiefly of announcements of committees, selection of the Nominating Committee, and the recommendations of the officers and the committee chairmen.

The only unusual procedure was that the officers and committee chairmen were requested to separate recommendations from annual reports and present the same in writing to the secretary at this pre-convention board meeting. It was Mrs. Tomlinson's desire that these recommendations be given to a committee of five, appointed by the chair, to consider and report on the next day at the general meeting. This motion was made and passed after some interesting discussion. The women appointed to act on this committee were women very familiar with the work of the Auxiliary, four of them being past presidents.

The revisions report was taken up and accepted by the board as presented by the committee with only one important change. In the By-Laws, Article 1, Section 3, which reads: "A widowed member shall not be elected to an office. In case a woman becomes a widow while serving as an elective officer, she may continue to serve until the next regular election." This article was stricken out.

Tuesday and Wednesday were the two days given over to the business session of our annual convention. I shall not take the space to give a detailed account of the proceedings of these two days, but when you receive a copy of the minutes and reports of this convention be sure to read it. I shall just give you an idea of some of the important facts brought out in these reports. California was represented by three delegates who were in their places on both days. Mrs. Louis H. Dyke of Oakland, Mrs. J. R. Henry of Oakland, and Mrs. Harry Smith of Whittier.

On Tuesday, the address of welcome was very ably given by Mrs. James Hunter of New Jersey and a most gracious response given by Mrs. Jarvis Jordan of Alabama. Many telegrams were read by the secretary, among them one from Mrs. James Percy and Mrs. Philip S. Doane, extending their very best wishes and regrets at not being present.

Mrs. Tomlinson gave a very splendid report. She spoke of herself as being a "traveling president," having gone over 15,000 miles in performing her duties as president during the year. She had personally attended to all correspondence. Every plan for the convention had been carefully considered by her. She had given practically all of her time this year to the work. She reminded us that through all the many situations that necessarily arise, that she never forgot that we are a secondary organization to the finest of professions, always remembering that we must never act without the advice of our advisory council.

The National Treasurer's report showed our financial status to be in excellent condition. The budget had not been exceeded and there was a good balance on hand. The annual budget for 1935-36 is $3,385.

The Organization chairman, Mrs. Packard, reported an increase in membership in every state. New York and North Dakota were two new states to organize. National feels as keenly about having New York State organize as we Californians feel about having San Francisco organize. The number of new members to come in during 1935 is 15,619. One state had reported 100 per cent attendance. Six new counties had organized in Texas.

The annual report of the Program chairman, Mrs. Arthur B. McGlothlan, showed that one of the surest ways of putting over what our Auxiliary stands for is through its programs. Health promotion and disease prevention had been stressed. Several states have held successful health institutes. The chairman reported that the counties following the suggestion as outlined in the Handbook had done the most constructive piece of work.

Mrs. David Long, chairman of Public Relations, was unable to be present as she was then attending the convention of the General Federation of Women's Clubs in Detroit. Her report showed that a strong effort is being made for a change in attitude of the public toward the aims of the medical profession; that the Auxiliary had assisted in organizations, through its individual members, in encouraging summer roundup examinations in the office of the family physician for the preschool age child. Annual health examinations for everybody had been stressed remembering that "stronger bodies make clearer visions."

The *Hygeia* chairman, Mrs. Lester, reported a growth in *Hygeia* circulation, Wisconsin leading and Michigan second. The total number of subscriptions obtained this year was 4,687.

Mrs. Robert Fitzgerald, in her report on Publicity, had a very favorable comment on California's *Courier*, and urged other states to do likewise.

A very impressive In Memoriam service was conducted by Mrs. Doane of Pennsylvania with Doctor Knox of Philadelphia rendering the vocal numbers. This service is held in memory of our members who have passed on. The beautiful flowers for this service were supplied by the Texas Auxiliary in memory of their late president, Mrs. Preston Hunt, who passed away recently.

The recommendations of the officers and chairmen were accepted at the general meeting on Tuesday as recommended by the committee of five, appointed at the pre-convention board meeting.

The report of the Nominating Committee was read. The ticket as presented by the committee was declared elected. Mrs. Robert Fitzgerald of Wisconsin, who was chairman of Press and Publicity was made president-elect.

The state presidents were asked to give a word of greeting and I was happy and proud to tell them that we are a working organization of over 1,100 members. The presidents' reports were interesting and stimulating. I wish every member, especially county presidents, could have heard them. They will be printed and sent to you and again I urge you to read them when you do receive them. They have always been late in reaching us, but this year an effort is being made to have them sent in early. Thirty-four states reported and two sent in reports. The total registration at the convention was 1,849 with 103 Canadian guests.

The revisions were accepted as recommended by the board to be turned over to the Advisory Council for their approval.

The announcement was made that a subscription for the *News Letter*, gotten out by National, could be obtained on the payment of one dollar. It is my belief that every county president should receive one for the use of herself and program chairman.

The post-convention board meeting was held on Thursday morning with Mrs. Herbert presiding. This meeting was followed by a post-convention general meeting. Mrs. Herbert presented her plan of work and suggestions for the coming year. Mrs. Herbert is a very earnest, energetic person, who takes her office with a full knowledge of its responsibility. After meeting her, one feels that the National Organization should be congratulated on having her as the leader for this year. She reminded us in our work to put away personalities and always remember that prejudice and justice cannot dwell in the same heart, never forgetting that we serve. We must study so as to be able to interpret the medical profession to the laity.

The exhibits were very suitably arranged in a room on the main floor given over for that purpose, presided over by the chairman, Mrs. Miner and Mrs. Bier of Atlantic City. They made a good study of the variety of work carried on in the different states. Some interesting scrapbooks were displayed, Missouri having an outstanding one. There were four or five good maps. Our map from California, whose arrangement was managed by our able publicity editor, Mrs. Elmer Belt, made a fine showing. It is a very beautiful piece of work and I hope that you will all have an opportunity of seeing it at our next state convention. One Auxiliary of twenty-eight members in West Virginia had completed over 3,000 articles in seven months. There was one unusual exhibit made and contributed by the students of the Philadelphia General Hospital. It was called "Nursing Through the Ages" and represented by fifteen dolls dressed to show the progress made in nursing from the primitive mother to the modern professional nurse.

I have tried to give you an idea of what was accomplished during our working hours. I shall now tell you something of what happened when we played.

I have already spoken of our Sunday night dinner honoring Mrs. Tomlinson, which was a pre-convention affair. On Monday a buffet luncheon was scheduled, but on account of the large number of reservations, it was changed to a luncheon with the usual service, women being placed at tables holding ten people. This proved to be satisfactory, giving the members a chance to meet a new group.

Monday evening at the Ritz-Carlton Hotel a get-together dinner in honor of the visiting Canadian women was given. The speaker was Dr. Wilmer Krusen of Philadelphia, his subject, "The Doctor's Wife." He painted her as the perfect woman, the kind of a woman we would all like to be, and the kind we all know we are not. This was followed by a very lovely musical in the Palm Court room of the hotel.

Thursday morning found us at an eight o'clock Southern breakfast in the Submarine Grill of the Traymore Hotel, honoring Mrs. Tomlinson and Mrs. Herbert. Mrs. J. Bonar White presided. Dr. H. Marshall Taylor of Jacksonville, Florida, president of the Southern Medical Association, gave a short address.

Hackneys on the shore was the setting for our midday entertainment where we were served one of their famous seafood luncheons. The program consisted of a tenor solo and a dancing number. A chair ride on the Boardwalk or a sailboat ride was offered as the next attraction.

At four o'clock a tea and musicale at the Traymore Hotel was given by the Woman's Auxiliary to the Philadelphia County Medical Society.

At eight o'clock in the Municipal Auditorium, an open general meeting of the American Medical Association was held. Mrs. Louis Dyke and I attended this meeting with Doctor Dyke. One is amazed at the size of this convention hall. The Mayor of Atlantic City, who welcomed us, told us that it is the largest in the world, having a seating capacity of 45,000 on the main floor, also having the largest pipe organ in the world. The introduction and installation of President-Elect James S. McLester took place. Two very fine addresses were given, one entitled, "The Breath of Life," by Dr. J. C. Meakins, president of the Canadian Medical Association, and one by Doctor McLester, "Nutrition and the Future of Man."

On Wednesday, June 10, a reception and Auxiliary luncheon was held in the main dining room of the Traymore Hotel. To me, this was the outstanding social event of the Auxiliary convention. Mrs. Tomlinson presided. The setting for the luncheon was very lovely. The speakers' table was necessarily long, beautifully decorated and with a row of palms for a background. It was interesting to note that four past-presidents were present. Greetings were extended to us by Doctor Bierring, Doctor McLester and Doctor Austin Hayden, member of Advisory Council. The speaker for the afternoon was Dr. Leonard Rowntree of Philadelphia, whose subject was "The Romance in the Research of Medicine." He traced the progress of medicine from the time of Hippocrates to the present time. This address was exactly the kind of a talk that I have had in mind for programs. I wish that every county would make an attempt to have one program given over to this subject this year. I believe each county could find a doctor or even a doctor's wife who could give a program on the subject. Doctor Rowntree had an unusually pleasing address and talked without a paper, or even notes, which always adds to the interest of a program.

During the afternoon Dr. Morris Fishbein brought in and introduced Dr. Allan Roy Dafoe. Naturally he was an object of great interest to the women. The very type we knew he would be—modest, earnest, and unassuming. He gave us a nice little talk about the quintuplets and then we were allowed to ask him questions.

A luncheon on Thursday was held at the Ritz-Carlton Hotel, followed by a style show in the Palm Court Room. The models for this show were chosen from the local Auxiliary groups. Bridge followed.

The bring-your-husband dinner that evening was held at the Traymore Hotel, after which all were given an opportunity to attend the president's reception and ball.

Friday was given over to so many activities, that one had to choose. The outstanding one was a De Luxe tour. An interesting trip through the South Jersey mainland, visiting the historical points peculiar to that section.

When I arrived, alone in the rain, at the Traymore Hotel on Sunday, I'll confess I felt rather far away from my friends. After a little rest in my room and freshening up, I started to explore. I went to the eighth floor to the library first, where the general meetings were to be held. The attendants were getting it in order, and the man in charge asked me at once if I were Mrs. Tomlinson. Feeling somewhat impressed for having been taken for the national president, even by someone who evidently did not know her, I went to the first floor, where they were getting ready for registration. After five minutes in that group, I never had a chance the whole week to feel that I was far away from friends. I was greatly impressed with the cordiality extended to everyone and by everyone. I found our women to be a sincere, broad-minded and earnest thinking group, and I wondered why I had never been enthused to the point of making an effort to attend this national meeting before. I shall never have to be urged to go again.

I feel indebted to Mrs. Percy, who had written ahead to many of the officers and well-known members to be on the watch for me, so with her introduction, I was not received as a stranger. It was stimulating to be able to converse with these women, whose names I had seen so often connected with our national activities, and surprising how much time we found for a little private discussion. These contacts I shall always cherish. It is my desire to pass on to the county organizations some of the enthusiasm I was fortunate to share in the cordial contacts I made in the national organizations.

It was gratifying to note that the growth of the Auxiliary is gaining every year, in the eyes of the men. In other words, they feel that we are fulfilling our function.

I want to express to you, my fellow Auxiliary members, my appreciation of the courtesy you extended to me in allowing me to represent California at this national convention.

Most sincerely,
Bessie E. Clark.
(Mrs. Thomas J. Clark.)

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

American College of Surgeons, Fairmont Hotel, San Francisco, October 28 to November 1, 1935. Howard C. Naffziger, M. D., 384 Post Street, San Francisco, Chairman.

California Medical Association, Coronado, May 25-28, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco, Secretary.

Nevada State Medical Association, Elko, Nevada, October 25-26, 1935. Horace J. Brown, P. O. Box 698, Reno, Secretary.

Oregon State Medical Society, Gearhart, September 19-21, 1935. Blair Holcomb, M. D., Stevens Building, Portland, Secretary.

Pacific Coast Society of Obstetrics and Gynecology, Los Angeles, November 6-9, 1935. T. Floyd Bell, M. D., 400 Twenty-ninth Street, Oakland, Secretary.

Medical Broadcasts*

San Francisco County Medical Society. — The radio broadcast program for the San Francisco County Medical Society for the month of September is as follows:

Tuesday, September 3—KJBS, 11:15 a. m. Subject: Vaccines and Serums.

Thursday, September 5—KFRC, 1 p. m. Subject: Vaccines and Serums.

Tuesday, September 10—KJBS, 11:15 a. m. Subject: Too Much Sugar.

Thursday, September 12—KFRC, 1 p. m. Subject: Too Much Sugar.

Tuesday, September 17—KJBS, 11:15 a. m. Subject: New Diabetics for Old.

Thursday, September 19—KFRC, 1 p. m. Subject: New Diabetics for Old.

Tuesday, September 24—KJBS, 11:15 a. m. Subject: Dietary Delusions.

Thursday, September 26—KFRC, 1 p. m. Subject: Dietary Delusions.

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Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of September is as follows:

Tuesday, September 3—KECA, 11:15 a. m. Subject: Alcoholism 1.

Saturday, September 7—KFI, 9 a. m. Subject: Alcoholism 1.

Saturday, September 7—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, September 10—KECA, 11:15 a. m. Subject: Alcoholism 2.

Saturday, September 14—KFI, 9 a. m. Subject: Alcoholism 2.

Saturday, September 14—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, September 17—KECA, 11:15 a. m. Subject: Alcoholism 3.

Saturday, September 21—KFI, 9 a. m. Subject: Alcoholism 3.

Saturday, September 21—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, September 24—KECA, 11:15 a. m. Subject: Oddities No. 7.

Saturday, September 28—KFI, 9 a. m. Subject: Oddities No. 7.

Saturday, September 28—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Papers for the 1936 Annual Session at Coronado—Notice to Members.—Any member of the California Medical Association who wishes to present a paper before any of the sections at the annual meeting in Coronado on May 25 to 28, 1936, is requested to communicate with the Association or section secretaries. The roster of section officers is printed in each issue on advertising page 4.

Reliable Apparatus—An American Medical Association Leaflet Sent to You Upon Request.—CALIFORNIA AND WESTERN MEDICINE has received from the American Medical Association a small pamphlet containing a list of the apparatus accepted by the Council on Physical Therapy, the first one published under the direction and supervision of the Council. In addition to the list and description of accepted apparatus, the pamphlet contains indications for the use of each type and a statement relative to efficacies and dangers.

This pamphlet is a real contribution on the part of the American Medical Association in behalf of rational therapeutics—an effort to help place physical therapy on a sound, scientific basis for the benefit of the medical profession.

One of the purposes of the Council on Physical Therapy is to protect the medical profession, and thereby the public, against inefficient and possibly dangerous apparatus and against misleading and deceptive advertising in connection with the manufacture and sale of devices for physical therapy.

"Apparatus Accepted" includes all the devices accepted by the Council prior to May, 1935. Any physician can obtain this pamphlet free by writing to the Secretary, Council on Physical Therapy, A. M. A., 535 North Dearborn Street, Chicago, Illinois.

State Senator Edward H. Tickle of Carmel—Article Concerning His Interest in Compulsory Health Insurance.—The following news item was printed in the San Francisco *News* of July 31, 1935:

> "*Health.*—You're likely to hear presently that SERA is about to undertake a payroll survey in California. Since SERA is vitally concerned with payrolls and with cementing a relationship between them and the unemployed, this will seem a normal piece of business for that organization to be promoting. Actually, the promoter will be a figure lurking in the distant background, and his object will be something altogether different.
>
> "If you borrow the Lick Observatory telescope and take a look, you'll discover the lurker is none other than State Senator Edward H. Tickle of Carmel, and he is busily pumping enough adrenalin into Health Insurance to make a dead horse get up and shout 'Hot-Cha!'
>
> "Those close to the senator say he is convinced that instead of being thrown for a no-yard gain at the last session of the Legislature, Health Insurance actually got further than ever before in the history of the republic. So he is looking forward to the next session.
>
> "*Prospect.*—From his point of view, the fight in the Legislature brought out all the opposition, so that it becomes possible to wear down all the counter-arguments by two methods—by assembly of evidence and by compromise.
>
> "In the way of evidence, the senator wants to show that each one per cent of California payroll tax would raise eleven millions. That would dispose of a lot of fiscal arguments against Health Insurance. But he doesn't want to offer his own figures. He wants official, impartial government statistics. He's quite sure Harry Hopkins can be induced to get them.
>
> "Naturally, he expects the survey to show that doctors would get more from a modest payroll tax than from ordinary fees—particularly when collections are reported down to 24 per cent in the $1,500 patient-salary bracket, 45 per cent in the bracket up to $5,000, and only 65 per cent above $5,000."

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* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to CALIFORNIA AND WESTERN MEDICINE, 450 Sutter Street, San Francisco, for inclusion in this column.

Dr. Adolph Barkan Deceased.—As CALIFORNIA AND WESTERN MEDICINE is going to press, we have received word that Dr. Adolph Barkan, formerly professor of ophthalmology and otology in Cooper Medical College, passed away in Zurich, Switzerland, August 28, in his ninety-first year.

Doctor Barkan is survived by his wife and four children—Hans, Fritz, Otto, and Fanny. The last is now Mrs. Eric Offermann of Zurich, her husband a teacher in the university, in electrical engineering. Fritz is in business in San Francisco, and Hans and Otto are worthy successors of their father in ophthalmology.

Doctor Barkan was a notable figure in the development of medical education in California and did much to build up the Lane Medical Library.

A detailed biographical sketch of Doctor Barkan will appear in a subsequent issue.

Los Angeles County Medical Association Plays Host for Day to Ninety British Doctors.—Ninety members of the British Medical Association, their wives and families, arrived in Los Angeles today on a special Santa Fe train en route to the association's convention in Australia.

Local doctors, headed by Dr. Edward M. Pallette, president-elect of the California Medical Association, greeted the visiting medical men and arranged a program of entertainment, including motion-picture studios and other points of interest.

The group remained in Los Angeles only twenty-four hours, proceeding to San Francisco, where forces were joined with another party which crossed Canada.

The British doctors attended a luncheon at the headquarters of the Los Angeles County Medical Association at 1925 Wilshire Boulevard and went on sightseeing trips immediately afterward.

Leading the group on the tour, which eventually will have encircled the world, are: Dr. E. Kaye Le Fleming, chairman of the council of the British Medical Association; Dr. N. Bishop Harman, treasurer; Dr. H. Guy Dain, deputy chairman; and Dr. G. C. Anderson, medical secretary.

Dr. Edward Pallette, Dr. G. C. Toland, and Dr. Chalmers-Francis, all prominent in local medical circles, boarded the train in San Bernardino in order to make sure that arrangements went through as scheduled. The party visited the Grand Canyon.

Included in the British group were eight women doctors.—Los Angeles *Times,* August 12.

Library of the Los Angeles County Medical Association.—The library of the Los Angeles County Medical Association acknowledges the generous gift from the California Medical Association for several years to the Barlow Medical Library, and the resolution of 1935 giving twenty-five cents per member to the library of the Los Angeles County Medical Association ". . . in order to support the library in making available reference books to the doctors of California. . . ." This because of the "service to the medical profession throughout the State."

The librarian stated further:

"We are glad to express our willingness to coöperate in purchasing and supplying books and service to the members of the California Medical Association of the southern region. It has been the policy to answer all requests for limited research and loans, through interlibrary loans as far as other libraries were available, and to individual doctors from Santa Barbara to San Diego. This will be continued and the service extended as far as possible, for it is the ambition of this library to be of the greatest use to the organized medical profession of the State.

"Suggestions for the purchase of books and magazines will be received and requests will be complied with as far as possible. The list of new accessions will be published in the JOURNAL if space is given for this purpose. This is now being done in the Bulletin of the Los Angeles County Medical Association.

"Members of the California Medical Association from all parts of the State are particularly invited to visit the library and make use of it."

Oldest Practicing Physician Passes Century Milepost.—Dr. William Eberle Thompson of Bethel, Ohio, oldest practicing physician in the United States, observed his hundredth natal anniversary Saturday, July 6, at his home in the village where he was born, and all Bethel and much of the surrounding territory celebrated it with him. There was a public reception, at which Dr. John A. Caldwell, Cincinnati, president of the Ohio State Medical Association, was one of the speakers. Bethel Lodge of Odd Fellows, of which he has been venerable warden for many years, honored him with a special session, at which he performed the ritual initiating a class of candidates. He was much surprised that he received scores of birthday cards from all over the United States.

Doctor Thompson still cares for much of his practice, but remarked that, "I don't respond to many night calls—not unless I have to." He is in his seventy-sixth year of medical practice, and delivered a baby successfully, not long ago. He is one of twelve in his family to adopt medicine as a career, and is the oldest alumnus of the Cincinnati College of Medicine and Surgery, which graduated its last class in 1902.

American Public Health Association.—The sixty-fourth annual meeting of the American Public Health Association will be held in Milwaukee, on October 7 to 10.

Many health workers will be interested in the new Matthew Keenan Health Center, a $200,000 gift to the City of Milwaukee. This center concentrates offices for health services on the northwest side. Its services include consultation and diagnosis in chest conditions, eye, ear, nose, and throat, x-ray examinations, immunizations for diphtheria, smallpox, typhoid and scarlet fevers, two dental clinics for indigent children and child welfare clinics.

The Milwaukee County institutions are located just west of the city and include an infirmary, a 1,000-bed county hospital, asylum for chronic insane, hospital for mental diseases, home for dependent children, Muirdale Tuberculosis Sanitarium, and Bluemound Preventorium. These buildings are located on a beautifully landscaped 1,100-acre tract. Another county building, the Dispensary-Emergency unit, is located near the center of the city.

The Bluemound Preventorium is the only institution of its kind in Wisconsin. Its effectiveness is evident because it is said that only two of the 1,900 children patients in the Preventorium in its nine years of work have later been obliged to enter Muirdale Tuberculosis Sanitarium for treatment.

The new Marquette University Medical School is located within walking distance of hotels and auditorium. It has an interesting display of pathological specimens. This building is a part of the health unit, embracing the physical education department, a dental school and clinic, student health service, and an eye, ear, nose, and throat hospital clinic. Dr. Eben J. Carey, dean of the Medical School, was the director of medical exhibits at the Century of Progress Exposition in Chicago.

Milwaukee has nine fresh air rooms and also schools for handicapped children. One of these is the Lapham Park School for Crippled Children which houses 140 youngsters, of whom about sixty are infantile paralysis cases. It also conducts, through the Department of Health, twenty-seven child welfare clinics, and numerous preschool clinics in coöperation with various women's organizations.

The Milwaukee Vocational School is one of the first and foremost schools of this type in the United States. It occupies an entire city block and is valued at $5,000,000. Among the 203 courses offered, there is academic instruction for about four hundred student nurses being trained in the city's hospitals. Industrial rehabilitation work is conducted for crippled students.

Interstate Postgraduate Medical Association of North America.—The international assembly of the Interstate Postgraduate Medical Association of North America will be held in the beautiful Masonic Temple, Detroit, Michigan, October 14 to 18, 1935, with pre-assembly clinics on Saturday, October 12, and post-assembly clinics Saturday, October 19, in the Detroit hospitals.

The Association, through its officers and members of the Program Committee, extends a very cordial invitation to all physicians in good standing in their state and provincial medical societies to attend the assembly. An unusual clinical and didactic program, including all branches of medicine and surgery and the specialties, has been arranged by the Program Committee.

In coöperation with the Wayne County Medical Society and the Michigan State Medical Society, and with the active support of the Detroit Convention and Tourist Bureau and the Detroit Board of Commerce, a most excellent opportunity for an intensive week of postgraduate medical instruction is offered by a very large group of acknowledged leaders in the profession.

Attention is called to the list of teachers and clinicians who will take part on the program, which appears in the advertising section of this JOURNAL. (See advertising page 14.)

Registration fee of $5 admits all members of the profession in good standing. Officers of the Association are: Dr. Charles H. Mayo, president, Rochester, Minnesota; Dr. George Crile, chairman of Program Committee, Cleveland, Ohio; and Dr. William B. Peck, managing director, Freeport, Illinois. Full information may be had from the managing director.

Doctors from Britain Feted by San Francisco County Medical Society.—In a "hands across the sea" luncheon at the Palace Hotel on August 13 in honor of a visiting party of more than one hundred leading members of the British Medical Association, a call for closer ties between English-speaking peoples was sounded.

Dr. E. Kaye Le Fleming, chairman of the council of the British association and leader of the visitors, who were en route to the association's convention in Melbourne, Australia, expressed the hope that "a firmer bond" would grow out of the party's trip across the United States.

"We must show the way to other nations," he declared.

Confidence that great good would result was expressed by the distinguished visitor "because all along our route we have encountered a wonderful spirit of good fellowship."

"For our part," he continued, "never has there been such a pilgrimage across your country of men more able to speak for their profession in their own land."

Dr. J. C. Geiger, president of the San Francisco County Medical Society, which acted as host, presided, and upset the tradition that the Britisher cannot be hurried at his meals.

Not only did Doctor Geiger carry the speaking program along without delay, the whole affair being over in an hour and a half, but the visiting delegates, with quiet amusement, expressed themselves as highly pleased with the swift pace.

Also at the speakers' table were: Dr. G. C. Anderson, secretary of the British association; Dr. Ray Lyman Wilbur, president of Stanford University and former president of the American Medical Association; British Consul A. C. Charlton; Father Harold E. Ring, president of the University of San Francisco; Dean Gresham of Grace Cathedral, and others.

The party of British medical men, their wives and friends, were taken on a sight-seeing tour of the city before sailing on the *Aorangi* for Australia.—San Francisco *Chronicle*, August 14.

Lane Medical Library.—The Lane Medical Library, with a book collection exceeding 85,000 volumes, is the largest medical library west of Chicago. Every effort has been made by Stanford University to serve the medical profession in the Pacific Coast area through its medical library. Books and journals are sent directly to physicians who have taken out membership in the Lane Medical Library (annual payment of $10) and to others through the medium of inter-library loans, in which case the books or journals desired are forwarded to other libraries for the use of borrowers.

During the academic year 1933-1934, 17,012 volumes were lent to individual borrowers. Loans to other libraries and to out-of-town members totaled 1,085.

The staff of the Lane Medical Library is able to render prompt assistance to physicians in their use of the library and the literature. During recent years it has been a pleasure to assist many writers in the preparation of books and papers, particularly in connection with the bibliographical aspects of their work.

The maintenance of the largest current medical subscription list in the West (six hundred) would have been impossible during recent years except for the generous support which has been given to the library by individual members of the medical profession and by an annual grant from the California Medical Association. It would be a serious matter if the splendid collection of journals at the Lane Medical Library should have its growth suspended in view of the fact that many of these publications are not otherwise available in this area.

Relapsing Fever Carrier Is Found — Public Is Warned.—The carriers of relapsing fever, a comparatively new and severe disease for California, have been traced by University of California scientists to a species of tick found in the mountainous parts of the State. Relapsing fever, common in the tropics and frequently encountered in Africa, is rarely fatal, but has become a definite health menace in California. It not only causes severe illness soon after infection, but repeated relapses before it has run its course.

Vacationists and residents in the high Sierra are asked to keep a close lookout for this tick and to promptly report any infection to the nearest health officer. The ticks feed at night for the most part. The body, when distended, has a strawberry red hue, except for the anterior point, which is whitish in color. Unlike other ticks, which have to be dislodged ordinarily, the relapsing fever tick drops off after it has engorged, this being accomplished usually in less than thirty minutes.

Two of the University scientists, C. M. Wheeler, assistant in entomology and parasitology, and George E. Coleman, research assistant in the Hooper Foundation of Medical Research, were themselves stricken with the disease while looking for the criminal vector. Characteristically enough, they helped develop the germ from specimens in their own blood, although too ill to stand on their feet, and materially assisted in finally identifying the transmitting tick. This tick is now described under the name Ornithodorus hermsi, after Professor W. B. Herms, chief entomologist of the College of Agriculture, who, with Dr. K. F. Meyer, director of the Hooper Foundation, directed the work of discovery.

The ticks were taken at Lake Tahoe and in the Big Bear region of San Bernardino County, and brought to Berkeley and San Francisco, where the disease was developed clinically in a number of mice and in a monkey. It was known previously that other species of the tick were responsible for the disease in Texas, Central America and other parts of the world, and this fact greatly aided in the California discovery.

The longevity of the incriminated ticks is remarkable. Several records show that adult females may remain alive for more than two years without food. Certain specimens remained alive for more than four years with but two feedings a year.

Three Hundred and Eighty-Eight Dollars Average United Stated Income During 1934.—Did you earn $388 last year?

That is the income the Department of Commerce figures was received by the average American in 1934, according to United Press.

It was $35 above the previous year because of government spending and wage increases but fell far under the $628 average income in the prosperity year 1929.

The total national income last year was estimated at $49,440,000,000, a gain of more than $5,000,000,000 over income of $44,431,000,000 in 1933 but far below the prosperity high of $78,576,000,000 in 1929.

Based on a population of 127,000,000, the per capita income last year was $388. Wages or salaries supplied $260; professional services, $63; dividends and interest, $56 and rents and royalties, $9.

All forms of income except interest payments showed gains over 1933 and all major industrial groups except electric light and power and manufactured gas reported higher earnings. . . .

Newsboy an Employee.—Of considerable interest is the recent case of Pacific Employers Insurance Company vs. Ind. Acc. Com. (and Davenport, 90 C. D. 12) in view of the troublesome question as to the status of newsboys.

This case, recently decided by the State Supreme Court, reverses an opinion of the District Court of Appeal (79 C. A. D. 978), and holds that the employee, Davenport, was not excluded from the provisions of the Workmen's Compensation Act by the 1931 amendment to Section 8 (a) which excludes "any person engaged in vending, selling, offering for sale, or delivering directly to the public, any newspaper, magazine or periodical where the title to such newspaper, magazine or periodical has passed to the person so engaged."

Mr. Davenport, the employee, had been selling the Sunday edition of the *Times* for two years, and it is admitted he was in the course of his employment when he was struck by an automobile and received the injuries for which the award of compensation was made. There was keen sales competition between the *Times* and another Los Angeles paper. The city circulation manager of the *Times* testified before the Commission that the *Times* was "interested and concerned with seeing that there was a boy selling (the *Times*) in each major location in which the (other paper) was being sold." The boys selling the *Times* were not allowed to sell any other paper. Mr. Davenport was one of the boys assigned to a particular location by direction of the district manager. It was his duty to sell the Sunday *Times* exclusively, for which he received two and a half cents for each paper sold, together with a "bonus" of fifty cents per day, paid by the *Times* for "selling the papers at that corner." In addition, the district manager made arrangements, as in other cases with other boys who went around the neighborhood selling Sunday papers, that they should "check in" with Mr. Davenport for papers sold by them. The "bonus" just referred to, was explained by the testimony before the Commission to be an amount determined by the circulation department to be paid to the boy at the corner to compensate him for being on his corner, as required, at all proper times "and (working) while he was there." This bonus when paid to a boy carried with it "the requirement of exclusive service." The boy's work must be satisfactory to the district manager, the circulation manager, and "to the *Times*." The hours for being at the corner were fixed by the district manager.

The court held that Mr. Davenport came squarely within the definition of the term "employee" contained in Section 8 (a) of the Workmen's Compensation Act, and was not excluded from the provisions of the Act by virtue of the amendment to Section 8 (a) quoted above.

Major Causes of Illness Not Major Death Causes.—A sickness survey was recently made of approximately 40,000 persons, recording their various illnesses for a period of one year. It covered specific population groups in eighteen states, visited periodically for twelve months.

It was found that respiratory diseases, accidents and communicable diseases constitute nearly 70 per cent of the causes and that 60 per cent of all illness caused the patient to lose one or more days from work or school.

Heart and circulatory diseases are the most frequent causes of death, but were found to occupy eighth place as a cause of sickness. Illness was most frequently found under five years and was least frequent at fifteen to nineteen years.

Of the 40,000 individuals, 48 per cent were not sick at all during the year; 32 per cent were ill once, 13 per cent twice and 7 per cent three or more times.

These repeated illnesses were at their highest in infancy and early childhood and at twenty-five to thirty-five years of age, the adult peak probably being due to childbearing and its attending illnesses.

Taken as a whole the survey, including as it did all classes of population and every variety of living conditions, shows that incapacitating illness is largely preventable, since accidents, respiratory and the communicable diseases formed 70 per cent of the total. It also shows that at specific ages the major causes of death are not generally the most frequent causes of illness.

Sanford V. Larkey Given High Honor by Johns Hopkins.—News that he has been appointed librarian of the great William H. Welch Memorial Medical Library of Johns Hopkins University, Baltimore, has just been received by Dr. Sanford V. Larkey, librarian of the University of California Medical School.

This distinguished honor results from Doctor Larkey's outstanding achievements in applying the historical survey of medicine and science to present day problems. He developed a course in the history of medicine and sciences at the University of California Medical School that attracted wide attention, and has done much original work in these subjects at the British Museum in London and at the Huntington Library in Pasadena.

Doctor Larkey is a graduate in medicine from the University of California, receiving his M. D. degree in 1925. Previously he had received his A. B. degree from the University in 1921. Pursuing special work at Oxford after taking his medical degree, he obtained an M. A. degree from that university in 1928. He has been in charge of the Medical School library since 1930.

The William H. Welch Memorial Library at Johns Hopkins was organized in 1927 to honor the teacher of that name, who is regarded as one of the greatest to have ever been connected with the Johns Hopkins faculty. Doctor Welch was professor of the history of medicine, and the library was made up largely of the writings that he prepared and collected in his chosen field. The library not only serves the Johns Hopkins Hospital and medical school, but all of the departments of the university devoted to various branches of medical science.

Doctor Larkey will leave for his new post in the early fall.

Hooper Foundation Comes of Age—Has Saved Many Lives.—The Hooper Foundation of Medical Research, credited with saving thousands of California lives and millions of the state's money in the cause of public health, has come of age. It is observing its twenty-first natal year without ceremony or ostentation despite the fact that for years it has been regarded as one of the nation's chief ramparts against the spread of plagues and other diseases.

The Hooper Foundation, with like success, has fought pestilence in dark, poisonous tropical jungles thousands of miles from San Francisco and has probed the nearby ocean depths to find the cause of the fiercely virulent shellfish disease. It developed the studies which led to the cure of pernicious anemia, for which its first director, Dr. George Hoyt Whipple, among others, was awarded the Nobel Prize in Medicine for 1934. It saved the canning industry of the State from disaster by developing preventive measures against botulism, which have proved highly effective. It has gone down into the tropical leprosaria in order to help solve the baffling secrets of leprosy and to aid in developing a cure.

One of the notable achievements of the Hooper Foundation was the isolation by Dr. Karl F. Meyer, its present director, of the causative virus of equine encephalomyelitis or sleeping sickness, which killed ten thousand horses and mules in the State in three years and which has become a nation-wide menace, not only to horses but to man. The discovery of latent psittacosis or "parrot fever" in certain types of bird pets in California was another achievement.

The so-called occupational diseases, relapsing fever, undulant fever, and many other public health hazards have been definitely held in check through work done by the laboratories and skilled technicians of the Hooper Foundation. One of its greatest developments has been the Pacific Institute of Tropical Diseases which, under the direction of the foundation, has launched a far-flung attack on the many tropical and Oriental maladies that threaten an invasion of this country.

The idea of the Foundation was first conceived by George Williams Hooper, pioneer California industrialist, but he died before he could put his plan into effect. It was followed out by his widow, Mrs. Sophronia Hooper, who not only directed all of the terms of the original trust, but willed her own private fortune to the Foundation.

The Foundation was formally opened in 1914, in the veterinary science building of the old "affiliated colleges" in San Francisco, and is a part of the medical school of the University of California.

United States Food and Drug Research Expanded to Study Vitamins and Pharmacology.—Two Doctors Nelson have been appointed as chiefs of new divisions of the Food and Drug Administration, Dr. E. M. Nelson as chief of the Vitamin Division, and Dr. Erwin E. Nelson as chief of the Pharmacological Division. The Department of Agriculture announced recently that each is now assembling a staff taken in part from older units of the Department and in part recruited from specialists in the sciences involved in the work of the new divisions.

In announcing the creation of the new divisions, W. G. Campbell, chief of the Food and Drug Administration, emphasized the increasing importance of work in each of these fields and said that the work is so essential that it must be pushed, even though, for the time being, the required funds may have to be deducted from support of regulatory work. The Vitamin Division will check the claims and help establish standards for food and drugs for which claims of vitamin potency are made. The Food and Drug Administration has been doing some routine work of this sort, but it has been inadequate to meet the growing need.

The Pharmacological Division, in addition to more comprehensive testing of certain medicinal products, will pay particular attention to several relatively new fields of work—the testing and standardization of glandular preparations put on the market in recent years, investigations of the effect of poisons and impurities present in foods, and testing of the effects of new synthetic chemicals used in foods and medicines. Of the poisons and impurities, the question of spray residues on fruits and vegetables is now most pressing. In regulating interstate commerce in sprayed products, the department is urgently in need of more positive and authoritative guides to safe practice, Mr. Campbell explains. . . .

Dr. Marion Dorset Dead. — A brilliant scientific career devoted to public service was ended with the death of Dr. Marion Dorset on July 14 at his home in Washington, D. C., after an illness of a few days. As a research worker in biological chemistry and chief of the Biochemic Division, Bureau of Animal Industry, United States Department of Agriculture, Doctor Dorset gained an international reputation for contributions having useful application in the livestock, meat and dairy industries and in public health.

Although known especially for his research studies of hog cholera and his discovery of an effective preventive serum treatment for this devastating scourge, Doctor Dorset made many other important scientific contributions covering a wide field.

They included research studies on the tubercle bacillus, keeping qualities of meats, composition and nutritive value of various meats and meat food products, the development and testing of disinfectants and dipping preparations, biological products used against animal diseases, research in dairy bacteriology, and extensive related work. His production of a harmless and effective fluid for marking federally inspected meats has saved the United States Government millions of dollars through the greater economy of this method over the former practice of using tags.

Doctor Dorset likewise proposed and outlined many investigations which his associates carried out with beneficial results to agriculture and public welfare. One of these was the rapid method of detecting pullorum disease in chickens, a discovery that has been a boon to the poultry industry. In connection with the nation-wide campaign to eradicate bovine tuberculosis, all the tuberculin used by federal veterinarians has been produced under the immediate supervision of Doctor Dorset. . . .

On the occasion of his discovery of antihog cholera serum, Doctor Dorset had the opportunity to acquire wealth through the manufacture and sale of this product for which a large demand promptly developed. But after applying for and receiving a patent, he gave it to the Government and to the public so that any person in the United States might use the method without the payment of royalty.

Doctor Dorset organized the federal inspection of establishments licensed to manufacture serums, viruses, toxins, and related veterinary biological products. He likewise formulated the laboratory procedures in the administration of the Federal Meat Inspection Act. He was a member of numerous scientific bodies and frequently presented papers at national and international meetings. . . .

CORRESPONDENCE

Concerning editorial entitled "A Libel on the California State Board of Health (August issue, page 107).

Western Branch, American Public Health
Association
August 20, 1935.

To the Editor:—Your editorial in the August number, commenting upon my address in New Mexico, calls for a statement and an interpretation from me.

First, the quotation used as a basis for the original article in the *New Mexico Health Officer* (June, 1935) was taken from uncorrected and unedited stenographic notes. Unintentionally, they do not present an accurate account of what was said or what was intended to be conveyed.

The speaker was attempting to present the necessity in a public health program for properly trained health officials with satisfactory tenure of office, working under sound organization with adequate budgets—the whole free from partisan political control.

No statement was made by the speaker with reference to the official acts or the personal relations between the members of the present State Board of Health. He was attacking a public health law and a political system that makes possible the removal of a qualified health official without just cause. The writer sincerely regrets if there has been a misinterpretation of an incomplete account of a statement made by him. He is glad to present these facts in order to remove any doubt as to his intentions.

As president-elect of the American Public Health Association, I see it as my duty to advocate improvement in public health laws and public health administration practices in this and other states. This was the main purpose of my New Mexico address. There is agreement among medical and public health leaders that sound public health programs require properly trained health officials with tenure of office based solely upon satisfactory services; further, that the Board of Health must be clothed with ample powers and given adequate budgets.

The writer is convinced that both the editor and the members of the State Board of Health are ready to join in any efforts to secure such improvements in the California health laws as will make for continuity of satisfactory services and administration.

Walter H. Brown, M. D.

* * *

In a reply letter to Doctor Brown, the editor stated in part as follows:

August 24, 1935.

Dr. Walter H. Brown,
Department of Hygiene,
Stanford University, California.

Dear Doctor Brown:—Receipt of your letter of August 20, in which you comment upon the editorial printed in the August issue of California and Western Medicine (page 107), is herewith acknowledged.

We are happy to learn that the stenographer who took the address you made to the New Mexico Public Health Association committed a serious error in his transcriptions. The synopsis of your article, as printed in the *New Mexico Health Officer,* Vol. V, No. 2, and from which our quotation was taken, gave to us the impression that you were of the opinion that the members of the present California State Board of Health were parties to tearing down and disrupting the Health Department of their State. The members of that Board did not agree with you, and they regret that you thought it necessary to single out California for special mention in order to lay a foundation for your other comments. If you received a copy of the *New Mexico Health Officer* about the same date (July 20), at which time a copy was given to the California State Board, and had promptly written to the California Board calling attention to the error, the editorial in the August issue of California and Western Medicine would not have been written.

Inasmuch as you hold a professorship in hygiene, I take it that you are familiar with the California laws which provide that the public health policies of the State shall be under the control of the Board as a whole; the secretary-director, who is the salaried executive, or administrative officer, being the individual who is responsible for putting the Board's orders into effect. . . .

Concerning security of tenure of office for executive public health officers who perform satisfactory service, and budgets adequate to cover the public health requirements of the commonwealth, we are in agreement with you. Sometimes, however, executive officials do not always give satisfactory service; and not infrequently a commonwealth is unable, through lack of funds, to provide an adequate budget. No absolute rule can, therefore, be made to cover all cases, and on that account laws should not be too rigid. . . .

Cordially yours,
George H. Kress, M. D.

Concerning recreation courses for patients, University of California Extension Division.

University of California
Extension Division
Berkeley

August 14, 1935.

To the Editor:—Mr. Guy P. Jones of the Department of Public Health has suggested to me that you might possibly use a short note drawing attention to the University Extension Division's so-called "recreational" courses. It has recently come to our attention that a number of members of the medical profession have recommended such courses to patients from time to time.

Thanking you for any coöperation you might render, I am

Very sincerely yours,
Walter S. Frederick,
Publications Editor.

Announcement follows:

University of California Recreation Courses.—Plans have been completed by the University of California Extension Division for the opening of more than 400 courses of instruction, open to anyone interested, during the fall months, according to an announcement received from Professor Leon J. Richardson, director.

"Men and women of all ages who seek some form of education but who are unable to attend the University of California will be able to secure training through the inauguration of this broad educational program throughout the state," says Professor Richardson.

Bulletins announcing the new courses are available to those who want detailed information and may be had by communication with the University Extension Division, Berkeley, California. Among the new "recreational" courses to be offered this fall are included "Six Trips Afield" and "Painting and Drawing for Recreation."

Other courses offered include studies in the field of anthropology, astronomy, biology, botany, history, political science, economics, and English, it is announced.

Concerning Assembly Bill 1765—An example of a "chartered university" by the State of California!

William R. Molony, M. D.,
Chairman, College Investigating Committee,
Board of Medical Examiners,
1930 Wilshire Boulevard,
Los Angeles, California.

Dear Doctor Molony:—The enclosed copy of a letter in reference to a naturopathic diploma issued by the California University of Liberal Physicians is self-explanatory.

The 1921 minutes of the Board of Medical Examiners, page 2112, report of the College Investigating Committee, show the following entry: California University of Liberal Physicians, Los Angeles, "inactive." . . .

Very truly yours,
C. B. Pinkham, M.D.,
Secretary-Treasurer.

* * *

Frank W. Taylor,
437 South Western Avenue,
Los Angeles, California.

Dear Sir:—We greatly appreciate your kindness in forwarding us a diploma issued to you April 18, 1935, by the "California University of Liberal Physicians, chartered 1914 by the State of California . . . ," which diploma grants you the degree "Doctor of Naturopathy."

Our records show that the California University of Liberal Physicians (Corporation No. 76965) was incorporated May 18, 1914. Among its purposes is stated, "To establish and conduct a college of learning for the purpose of teaching the art of healing and other sciences. . . . To prescribe courses of study and to issue certificates conferring degrees of proficiency and literary honors. . . . To establish and conduct a training school for nurses and masseurs. . . . To do anything and everything necessary to properly conduct a college of learning according to the provisions of Sections 649, 650, and 651 of the Civil Code of the State of California. . . ." The principal place of business is Los Angeles, and the trustees and incorporators are as follows: John J. Abramson, Harrison Albright, Herbert E. Bartlett, Elmer A. Clarke, George H. S. Dryden, August Greth, Henry Gross, E. F. Hahn, Carl Schultz, Ellen Schultz, Frank L. Willson.

It was organized not for profit, and has no capital stock.

We note the following names are signed to the diploma issued you April 18, 1935, by the California University of Liberal Physicians: Curtis Hollinger, D. C., M. C., N. D., president; George N. Bartlett, N. D., Ph. C., D. C., vice-president; Julia Crozier Hollinger, D. C., N. D., secretary; H. E. Jones, Ph. D., S. D.; Wolf Adler, D. C., Ph. C.; David M. McKibbin, A. M., N. D.

It is evident that the original incorporators have sold the charter of this institution to other interests.

Yours is the first diploma we have seen issued in the name of this institution, and would appreciate your advising us how many diplomas are outstanding.

We would also appreciate your advising us where the institution was located on the date appearing on your diploma, how long a course of study you pursued, and other facts that may aid us in determining whether graduates of this school should be admitted to the drugless practitioner examination.

We have received no request from the California University of Liberal Physicians for investigation by our College Investigating Committee to determine its eligibility for approval under the Medical Practice Act.

Under separate cover, we are returning your original diploma, a photograph having been kept for our files.

Very truly yours,

C. B. Pinkham, M. D.,
Secretary-Treasurer.

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Albert Carter,
Special Agent, Board of Medical Examiners,
906 State Building,
217 West First Street,
Los Angeles, California.

Dear Mr. Carter:—The California University of Liberal Physicians naturopathic diploma issued to Frank William Taylor, April 18, 1935, shows the signature of David M. McKibbin, A. M., N. D., and we are wondering if this is the same David McKibbin who was investigated by us in 1933, he then residing at 6452 Regent Street, Oakland, and who claimed to be a graduate of Trinity Medical College, Toronto, Canada, in 1900, although the authorities of that school could not find anyone by that name on their records.

Would appreciate a report.

Very truly yours,

C. B. Pinkham, M. D.,
Secretary-Treasurer.

Concerning proposed federal public health survey.

City and County of San Francisco
Department of Public Health

August 12, 1935.

To the Editor:—The enclosed copy of a letter addressed to Dr. J. D. Dunshee is being forwarded to you at the direction of the Director of Public Health.

On authority from the Director of Public Health.

Sincerely,

Jacques P. Gray, M. D.,
Assistant Director of Public Health.

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City and County of San Francisco
Department of Public Health

August 12, 1935.

J. D. Dunshee, M. D.,
Director of Public Health,
State of California,
703 State Building,
Los Angeles, California.

Dear Doctor Dunshee:—I have your letter of August 9, 1935, with which you sent to me a copy of the Surgeon-General's letter to you, dated July 31, 1935, and a memorandum outlining the Health Inventory Project No. 101, National Emergency Council No. 2042.

I wish to point out that in San Francisco a number of surveys have been made by the Federal Government in which the Department of Public Health has coöperated to its fullest extent. Some of these have not yet been completed. From our connection thus far, I am inclined toward the policy of not participating or sponsoring any new projects such as that outlined by the Surgeon-General. Furthermore, it would seem that the survey made by the State of California, recently completed but not yet published and relating to the legislation on health insurance, was so complete that additional surveys should not be necessary. Perhaps, however, the data desired in the study outlined by the Surgeon-General would not be comparable to those already obtained in the survey conducted by the committee appointed by His Excellency, Governor Frank F. Merriam.

Additional surveys, at least in San Francisco, I believe would not be desirable at this time. However, I am seeking further advice on this subject from the San Francisco County Medical Society, and your letter and the Surgeon-General's memorandum will be brought to the attention of that society this evening. I will be glad to inform you of the attitude of that group toward the proposed survey.

Sincerely,

J. C. Geiger, M. D.,
Director.

Concerning letters of appreciation from Lane and Los Angeles County Medical Libraries for gifts from the California Medical Association.

Los Angeles, August 6, 1935.

Dear Doctor Warnshuis:

We acknowledge with most grateful thanks the most generous gift of the California Medical Association of $1,169.25, received August 5, 1935.

This I am sure will be used to the greatest advantage to the library and the physicians of the State.

Enclosed please find receipt for the amount.

Yours very sincerely,

Library, Los Angeles County Medical Association.

Mary E. Irish,
Librarian.

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San Francisco, August 2, 1935.

My dear Doctor Warnshuis:

Just now your check for $1,169.25 came, the generous contribution of the California Medical Association to the Lane Medical Library, and I would like to extend to you our most sincere thanks. We truly appreciate your kindness.

I have sent the check to Mr. Nathan van Patten, the director of libraries of Stanford University.

With again our best thanks,

Sincerely yours,

Louise Ophüls,
Medical Librarian.

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Stanford University,
August 2, 1935.

Dear Doctor Warnshuis:

It gives me much pleasure to make grateful acknowledgment, on behalf of the University, of the recent additional gift of $1,169.25 from the California Medical Association to the Lane Medical Library. I need not say how greatly we appreciate the Association's fine support of this library, which is of such importance to the medical profession on the Pacific Coast.

Faithfully yours,

Ray Lyman Wilbur,
President.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 9, September, 1910

From Some Editorial Notes:

Medical Illumination.—Dishonesty and incompetence thrive only in the dark of general ignorance; the light of publicity wilts these noxious weeds. Medical schools are getting publicity a-plenty in these days, and the month of June was rather an unfortunate one for a number of them. From two distinct sources came publicity in large quantities. The Council on Medical Education of the American Medical Association published its long-promised report indicating the relative standing of schools, and pointing out directly those that should have no recognition without complete reorganization. The report of the Carnegie Foundation on Medical Education, made after a most careful examination of every medical school in the United States and Canada by Abraham Flexner, was also issued in June, and is a monumental work so full of truths, and so pregnant with food for thought, that it will be eagerly read and its facts earnestly considered by all who are interested in medical teaching or medical progress. . . .

* * *

Florence Nightingale.—Florence Nightingale is dead at the age of ninety; fifteen years of suffering, during which time she has hardly left her bed, ended a remarkable career. . . .

It is difficult in this day to form a conception of the conditions which confronted her, and which, in her brief campaign, she did so much to remedy. . . .

* * *

Status of Osteopathy.—So far as we are aware, no accepted definition of "osteopathy" is as yet a matter of record. . . . Elsewhere in this issue of the *Journal,* will be found some petitions relative to an application from certain osteopaths to be admitted to the Los Angeles County Hospital. This opens up a very broad question. . . .

* * *

Professor Ehrlich's New Remedy for Syphilis.—Within a brief period astounding progress has been achieved in the knowledge of syphilis: the discovery of the Spirocheta pallida as the etiologic agent was soon followed by the Wassermann test as a means of diagnosis, and now a great therapeutic triumph has been announced from Germany. . . .

For some years past Ehrlich has been assiduously devoting himself to a systematic search for chemical substances which would cure infectious diseases. . . .

We understand that dioxydiamidoarsenobenzol is a powder, and that it is very difficult to prepare a practicable sterile solution. . . . The efficacious dose in animals is said to be but a small fraction of the lethal dose, and by bolder use on human subjects, Ehrlich's ideal of a "sterilisatio magna" of a syphilitic body may yet be realized.

Remarks of Oscar C. Mueller, Chairman of Committee on Amendment of Laws of the Los Angeles Bar Association, on "Medical Expert Testimony." — The present status of expert testimony is unquestionably a disgrace to both the legal and medical professions, and the earnest endeavors of Doctor Lobingier to free these professions from this stigma and have California pioneer remedial legislation, is indeed laudable. . . .

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* This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

(Continued in front advertising section, page 30)

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA*

By Charles B. Pinkham, M. D.
Secretary-Treasurer

News

Among the bills passed by the last legislature and signed by Governor Merriam were Senate Bills 155 and 820 and Assembly Bill 1765.

Senate Bill 155 (Chapter 670, Statutes 1935) amends Section 10 of the Medical Practice Act, requiring that graduates of foreign medical schools, in addition to fulfilling the educational requirements under Section 10 of the Medical Practice Act, must present evidence satisfactory to the Board that the applicant is licensed to practice medicine in the country in which is located the medical school which issued him his diploma. He must also show that he has completed a one-year interneship in an approved hospital located in the United States or completed a senior year in an approved medical school in the United States.

Senate Bill 820 (Chapter 672, Statutes 1935) amends Section 2 of the Medical Practice Act, restoring the annual registration fee for licentiates under jurisdiction of the Board of Medical Examiners to $2. It increases the annual registration fee for licentiates under jurisdiction of the Board of Osteopathic Examiners to $5. It also amends Section 13 (reciprocity) permitting the applicant thereunder to show two years of legal practice in lieu of one year residence, now required in the State, used as the basis of reciprocity application.

Assembly Bill 1765 (Chapter 666, Statutes 1935) amends the Civil Code relating to incorporation of teaching institutions and prohibits the incorporation of any college, etc., proposing to issue transcripts, diplomas or degrees, unless the contemplated corporation fulfills the legal requirements as to financial responsibility and teaching personnel. This bill will prohibit further incorporation of fly-by-night colleges, but unfortunately will not control the host of present incorporated so-called schools or colleges. These corporations are being revived and purchased by those interested in conducting professional schools, their articles and purposes changed, and thereby will be evaded the provisions of Assembly Bill 1765. How to control the fly-by-night diploma and degree-conferring corporations is still a problem.

All bills will be effective at midnight September 14.

"In an opinion given to State Controller, Ray L. Riley, Attorney-General U. S. Webb ruled today the State Chiropractic Board had the right to employ inspectors. Webb declared the Board is charged with the duty of making investigations of applications and is given the power to revoke licenses. 'It is my opinion,' said Webb, '. . . that employment of investigators is necessary for the proper functioning of the Board, and, assuming that the number and compensation of such investigators are reasonable, it is my view that the Board has authority for such employment.' Riley received a letter from Dr. P. Purviance, protesting against the use of the Board's funds for the payment of salaries or expenses of investigators, contending the Chiropractic Act does not specifically give the Board the right to employ them." (Sacramento *Bee,* August 5, 1935.)

"Coincident with the discovery that he was arrested here in 1933 for unlicensed practice in connection with burning a woman's back with salve, Dr. Ralph S. Willard, Hollywood's frozen-monkey chemist, was re-

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* The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6.

(Continued in front advertising section, page 31.)

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FOOD IN THE OPEN CAN

● One question commonly asked concerning canned foods is whether or not the contents of the can should be removed to another container immediately after opening. This question has its origin in the belief that if food is allowed to remain in the can after opening, it will absorb an injurious substance from the can and thus become hazardous to the health of the consumer.

For this belief there is not the slightest foundation of fact. Its origin probably lies in the old "ptomaine" concept of food poisoning. Why it should persist in the light of present day knowledge is a mystery. The belief that food must be emptied immediately from the can has been as thoroughly discredited as the "ptomaine" theory of food poisoning (1).

Food poisoning is usually caused by the ingestion of food containing certain bacteria or their metabolic products. It is, in most instances, the direct result of improper preparation, handling, or storage of food (2) (3).

We have previously described in these pages how all canned foods are subjected to thorough heat treatment which destroys not only pathogenic bacteria and their products, but also the most resistant organisms which may cause spoilage. Consequently, the freshly opened can is the cleanest container in the average kitchen.

There is, therefore, no reason from the standpoint of food poisoning why the food must be removed immediately after the can is opened. In addition, food will spoil no faster or no slower in the open can than in any other open container. The same precautions should be used in its preservation as are used for any other cooked food.

With certain foods, it is desirable from the standpoint of quality to remove the food from the can. Such foods, usually those of an acidic nature, may act slowly on the can after air is admitted and small amounts of tin and iron may be absorbed. The traces of these metals have been shown by a Government laboratory to be entirely innocuous (3), but iron in particular may impart a slight taste to the food.

Modern science has dispelled the old belief that, from the standpoint of health, food must be removed immediately from the can. The cooperation of the medical profession in dispelling this old and unfair prejudice against their products is earnestly solicited by the members of the American canning industry.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) Journal American Medical Association, 90, 459, 1573 (1928)

(2) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century Co., N. Y. 5th Edition

(3) Food-Borne Infections and Intoxications, F. W. Tanner, Twin City Printing Co., Champaign, Illinois

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(Continued from Page 31)

contended that a chiropractor could not legally practice such a 'cure' because it required the giving of medical treatments. Attorney Eckhardt filed oral notice of appeal and Justice Wickizer granted a five-day stay of execution. . . ." (San Bernardino *Telegram*, July 12, 1935.)

"Naval physicians who practice medicine other than officially must pay a yearly registration fee, Attorney-General U. S. Webb had ruled today. Webb made the ruling in answer to a request of Dr. Charles B. Pinkham, secretary-treasurer of the State Board of Medical Examiners. The ruling stated, however, that navy physicians who treat only enlisted men or men in government hospitals need pay no fee." (San Francisco *Call-Bulletin*, July 24, 1935.)

"The State Board of Medical Examiners today was ordered to show cause why the proceedings held recently and which resulted in the revocation of the license of Dr. Byron H. Pelton of Compton should not be declared irregular and the entire proceedings stayed, pending a full and complete hearing. Doctor Pelton obtained the order from the Los Angeles County Superior Court last Thursday. Allegation was made that the State Medical Board had proceeded improperly when it amended its complaint against Doctor Pelton, filed last February. Doctor Pelton claimed that the Board had no jurisdiction to amend its complaint." (Compton *News-Tribune*, July 26, 1935.)

"Plans for the Los Angeles College of Drugless Physicians have been presented at the Capitol in a request for the incorporation certificate. The board

(Continued on Page 37)

SLEEP

> *"Sleep, mildest of all the gods, thou art thyself sweet peace of mind, a soothing balm, an alien to care, and brightest rest and strength to mortals worn and weary with the toils of life."*
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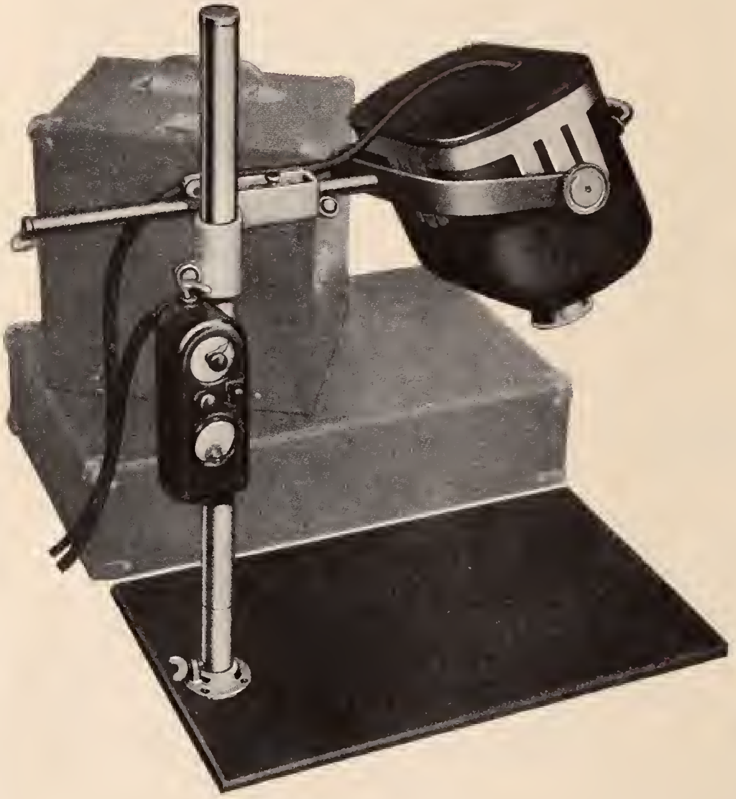

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(Continued from Page 34)

of directors, headed by B. B. Crombie, announced a college, hospital, laboratory, and clinics will be established." (Sacramento *Bee*, August 13, 1935.)

"Seventy-five thousand dollars damages because his listings were not dropped from the business section of the telephone directory is demanded by Dr. Edward P. Genochio in a complaint on file today against the Pacific Telephone and Telegraph Company. The company acknowledged receipt of a letter written by him in December, 1933, and promised to eliminate his listings from the June, 1934, directory, the plaintiff avers. He learned last January this had not been done, Dr. Genochio declares, when he received a complaint from the Board of Medical Examiners, charging violation of the Medical Practice Act on account of his advertising." (San Francisco *Call-Bulletin*, July 30, 1935.)

"Pleading not guilty to diploma-mill charges, Percy Purviance, fifty-two, head of a Berkeley chiropractic college at 2169 Shattuck Avenue, was held to answer to the Superior Court when he appeared for preliminary hearing before Judge Oliver Youngs yesterday afternoon. Unable to raise immediately $2,000 bail, Purviance was taken into custody by Berkeley officers, following the hearing. C. H. McDaniel, investigator for the State Board of Chiropractic Examiners, testified that on June 8 Purviance mailed, C. O. D. for $100, a 'Doctor of Naturopathy' diploma to him in Reno under the assumed name of 'Amos G. West.'" (San Francisco *Examiner*, August 6, 1935.)

"Ben Coats of Woodland is at liberty on $50 bail, following his arrest on a charge of administering treatment to the sick without a State license. . . . According to information given to District Attorney C. C. McDonald, Coats allegedly represented himself as an

(Continued on Page 39)

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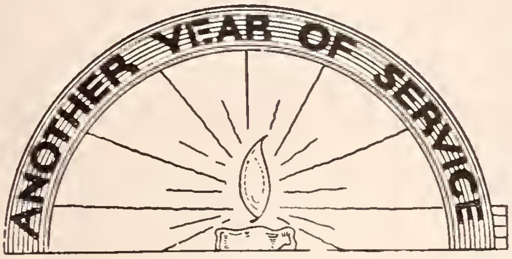
BOARD OF MEDICAL EXAMINERS

(Continued from Page 37)

assistant of a local doctor and called at the home of an elderly woman who had suffered a back injury in an automobile accident. Coats assertedly was attempting to administer treatment when the physician appeared on the scene." (Woodland *Democrat*, July 29, 1935.)

"Dr. Martin W. Lang, Long Beach physician, today was released on $500 bail, following his arrest last night by Deputy U. S. Marshal James Lavelle on a charge of violating the Federal Narcotic Act. Doctor Lang was accused in a federal grand jury indictment of furnishing a Long Beach attorney with narcotics, but the physician denied any intent to violate the Federal Act." (Los Angeles *Herald-Express*, August 2, 1935.)

"The judge looked on calmly as one man rolled up his sleeves, another removed his collar. Superior Judge John J. Van Nostrand's court nearly became the scene of a practical demonstration of chiropractic yesterday. Legal tactics and the discouraging avoirdupois of the intended subject balked the seriocomic enactment. Two groups of chiropractors, with the State of California as intervener, are attempting to secure a legal definition of the rights and limits of a chiropractor's ministrations. Philip Lovell of Los Angeles was the chiropractor who was to perform the experiment. He sighed and shook his head when a 200-pound man was selected for him to work on, stating he would need x-rays to analyze the subject's condition. Lionel Browne, Deputy Attorney-General, declined to serve in the experiment. 'We are trying to find out what a chiropractor can do. I will wait until we have the answer before I submit,' Browne said." (San Francisco *Examiner*, August 9, 1935.)



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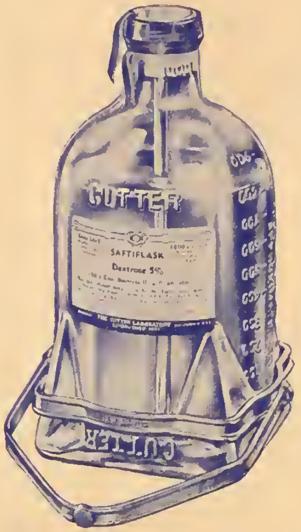

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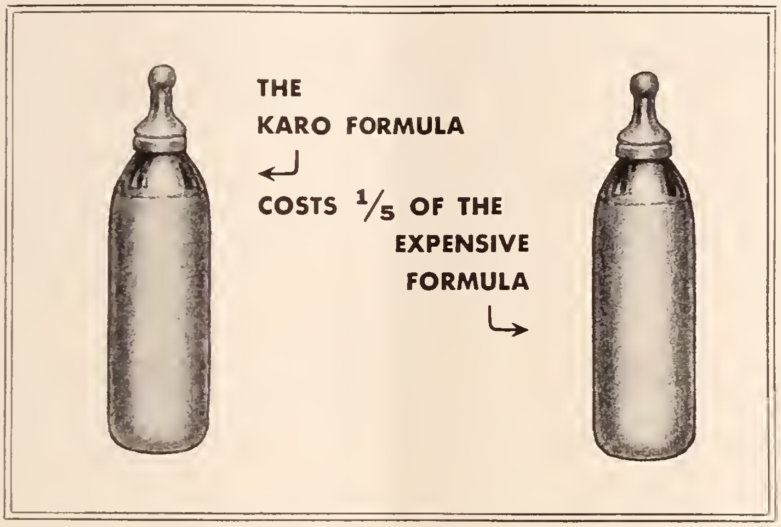

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Rescue measures should begin at once and continue rhythmically until natural breathing is established. This may take four or more hours. The procedure is as follows:

First: Kneel, and straddle the patient below the hips, placing hands on small of the back with fingers over the lowest ribs, tips of fingers just out of sight.

Second: With arms straight, while counting one, two, swing forward bearing weight on body firmly but not violently.

Third: Swing backwards while counting one, straightening up and thus relieving pressure—this allows air to be drawn into the lungs.

Fourth: Rest in this position for two counts.

Fifth: Repeat these movements rhythmically, forward and backward, without interruption, about twelve to fifteen a minute, until natural breathing is restored.

Sixth: Meanwhile, if assistance is at hand, a physician should be sent for, patient's tight clothing should be loosened at neck, chest or waist, and patient should be kept warm.

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BOOK REVIEWS

List of Books Received

BOOKS RECEIVED

Diseases of the Liver, Gall-Bladder, Ducts and Pancreas. Their diagnosis and Treatment. By Samuel Weiss, M. D., F. A. C. P., Clinical Professor of Gastroenterology, New York Polyclinic Medical School and Hospital: Attending Gastroenterologist, Jewish Memorial and Beth David Hospitals, New York.; Consulting Gastroenterologist, Long Beach Hospital, Long Island. Chapter on Surgery by J. Prescott Grant, M. D., F. A. C. S., M. R. C. S., Professor of Surgery, New York Polyclinic Medical School and Hospital; Attending Surgeon, City Hospital; Director of Surgery, Midtown Hospital. Chapter on Roentgenology by A. Judson Quimby, M. D., F. A. C. R., Professor of Roentgenology, New York Polyclinic Medical School and Hospital, Visiting Roentgenologist, Broad Street Hospital. Cloth. Pp. 1099, with 358 illustrations and six colored plates. Price, $10. New York: Paul B. Hoeber, Inc., 1935.

Clinical Diagnosis by Laboratory Methods. A Working Manual of Clinical Pathology. By James Campbell Todd, Ph. B., M. D., late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A. M., M. D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Eighth edition, thoroughly revised. Cloth. Pp. 792, with 370 illustrations, 29 in colors. Price, $6 net. Philadelphia and London: W. B. Saunders Company, 1935.

Disorders of the Blood. Diagnosis, Pathology, Treatment and Technique. By Lionel E. H. Whitby, C. V. O., M. C., M. A., M. D. (Cantab.), F. R. C. P. (Lond.), D. P. H. Assistant Pathologist, The Bland-Sutton Institute of Pathology, The Middlesex Hospital, and Pathologist, The Children's Hospital, Hampstead, and C. J. C. Britton, M. D. (New Zealand), Assistant Pathologist, The Christchurch Hospital, New Zealand; late Post Graduate New Zealand Scholar, The Middlesex Hospital, and Assistant Pathologist, The Bland-Sutton Institute of Pathology, The Middlesex Hospital. Washable cloth. Pp. 543, with 12 plates (eight colored) andl 53 text figures. Price, $7. Philadelphia: P. Blakiston's Son & Co., Inc., 1935.

Nutrition of Mother and Child. By C. Ulysses Moore, M. D., M. Sc. (Ped.), F. A. C. P., Director Nutritional Research Laboratory, University of Oregon Medical School; formerly Instructor in Diseases of Children, University of Oregon Medical School, and Medical Director of the Cooperative Infant Welfare Society of Oregon; Fellow American College of Physicians, Ex-President North Pacific Pediatric Society, Pediatrist to the Multnomah County Hospital and the Florence Crittenden-Wemme Home, Portland, Oregon. Fourth edition, completely revised and rewritten. Cloth. Pp. 258, with 46 illustrations. Price, $2. Philadelphia: J. B. Lippincott Company, 1935.

Human Pathology. By Howard T. Karsner, M. D., Professor of Pathology, Western Reserve University, Cleveland, Ohio. With an introduction by Simon Flexner, M. D. Fourth edition, revised. Cloth. Pp. 1013, with 18 illustrations in color and 443 in black and white. Price, $10. Philadelphia: J. B. Lippincott Company, 1935.

I'd Live It Again. By Lieutenant-Colonel E. J. O'Meara. Ind. Med. Service (retired). Cloth. Pp. 324, illustrated. Price, $2.50. Philadelphia: J. B. Lippincott Company, 1935.

International Clinics. A Quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest. By leading members of the medical profession throughout the world. Edited by Louis Hamman, M. D., Visiting Physician, Johns Hopkins Hospital, Baltimore, Md. Volume III, Forty-fifth Series, 1935. Cloth. Pp. 337. Philadelphia: J. B. Lippincott Company, 1935.

NEW MEDICAL BOOKS

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BOOK REVIEWS

The Heart Visible: a Clinical Study in Cardiovascular Roentgenology in Health and Disease. By J. Polevski. Philadelphia: F. A. Davis, 1934.

This volume deals with the roentgenological examination of the heart and presents information with which everyone interested in cardiology should be familiar—whether the person is an internist or a roentgenologist.

The book deals briefly with the topographical anatomy of the heart and its relation to the other structures of the thorax, and with the roentgen shadows of these structures under normal and abnormal conditions. It is quite thoroughly illustrated with 122 diagrams and reproductions of roentgenograms—mostly the latter. All the usual abnormalities and a good many of the unusual ones are touched upon.

While the reviewer agrees with most of the conclusions presented, there are some with which, perhaps on a basis of personal preference, exception might be taken. For instance, Doctor Polevski is still of the opinion that "the size relation . . . of the heart as a whole to the widest internal diameter of the chest (normally 1:2) is by far more important than the size of any diameter, or that of the heart as a whole," whereas this so-called cardiac thoracic ratio while convenient to the roentgenologist, has been found to be extremely fallacious and, in the experience of the reviewer, inferior to a correlation of the actual transverse diameter of the heart with the predicted normal as based on the patient's stature and weight, as contained in such tables as those of Hodges and Eyster.

The extremely important determination of the enlargement of the left auricle Doctor Polevski feels can best be accomplished in the true lateral position, whereas it is the experience of the reviewer that only extreme enlargement of the left auricle can be seen in that position. In those border line cases where the clinical diagnosis of mitral disease is indefinite and where x-ray confirmation is most desired, the slight left auricular enlargement seen in such cases can be most successfully demonstrated by examination in the left anterior oblique position.

Abnormalities of the aorta are thoroughly dealt with, but the transverse diameter of the aorta can, we believe, be much more simply and accurately measured by

(Continued on Page 14)

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(1) J. Amer. Med. Assn. 97, 1890 (1931)

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BOOK REVIEWS

(Continued from Page 12)

visualizing and isolating the ascending aorta in the right anterior oblique position than by the author's recommended method of measuring the diameter of the aortic isthmus in the antero-posterior view after filling the esophagus with barium. Also, it appears that he does not lay sufficient weight on the importance of examination of the root of the aorta in the left anterior oblique rather than in the antero-posterior diameter, in searching for early localized dilations.

Doctor Polevski is one of the few authors to mention even briefly the value of the observation of the pulsations of the heart as seen fluoroscopically.

Although the illustrations are distinctly superior in that more reproductions of roentgenograms are shown, still the data as a whole do not, in the opinion of the reviewer, measure up in value to the classical work on this subject published by Vaquez and Bordet some fifteen years ago. However, the two are excellent companion pieces and should be carefully perused by anyone who desires to reach his own conclusions in regard to the status of a patient's cardiovascular system.

W. W. N.

What You Should Know About Heart Disease. By Harold E. R. Pardee. Second edition. Philadelphia: Lea & Febiger, 1935.

The full title of this small volume of 127 pages is "What You Should Know About Heart Disease," and, as the name suggests, it is intended for the laity. Its purpose, as stated by Doctor Pardee, is one "To enable such a (lay) person to understand what is meant by heart disease and how it may lead to sickness," and (2) "to enable a person who has heart disease to understand thoroughly his condition."

The book contains an initial chapter on the physiology of the heart, and others on the etiology of heart disease, its symptoms and prognosis, as well as a discussion of the fundamentals of treatment both from the standpoint of limitation of activities and the use of drugs. A chapter is devoted to diets and dieting, another to the choice of occupations, and the question of marriage, and pregnancy. The information presented in these chapters is clearly and simply given and as a whole is sound.

This book is intended to do for the cardiac patient what such a volume as Joslin's Diabetic Manual does for the diabetic. However, it appears to the reviewer that the two situations are not analogous. Since diabetes mellitis is a disease entity practically all the material contained in a diebetic manual is of actual or potential value to the diabetic patient, while the wisdom of placing in the hands of, let us say, a patient with early rheumatic valvular disease a volume also dealing with arterio sclerosis, syphilis, hypertension, etc., as well as a discussion of the symptomatology of heart failure is open to question. Such statements as "for a pressure over 140 millimeters is always to be considered as abnormally high," may be an unwise bit of information to place in the hands of a patient whose father has recently died of hypertensive heart disease. And it appears to us that such statements as "when the ordinary activities of being up and about cause shortness of breath, or palpitation, or pain over the heart, then you must rest in bed," are better left to the discriminating physician than contained in a book to be passed out to a patient to whom perhaps such advice does not at all apply.

However, if the physician sees fit to recommend such a volume to his patient, the information contained in Doctor Pardee's book is understandable and accurate.

W. W. N.

Principles and Practice of Physical Diagnosis. By Paul Martini. Edited by Robert F. Loeb. Philadelphia: J. P. Lippincott Company, 1935. Price, $2.50.

One looks hopefully for the perfect textbook of physical diagnosis, and is always more or less disappointed. This English edition of Professor Martini's work presents interestingly and explains well the important techniques and facts of physical diagnosis. It selects and omits wisely, and its discussions reveal the author as a sane and competent clinician. It has the added virtue of brevity. It is pleasing to know that a readable presentation of the subject can still be carried about in the pocket.

One of the special features of the book—perhaps its major justification—is its emphasis on the underlying

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principles of physics, which are believed to govern the phenomena of percussion and auscultation. Many students may find this scientific approach helpful and clarifying. The reviewer confesses with some reluctance, however, that after much plodding in this field he has had to conclude that physical signs are explained better by common experience and common sense than by all the formulas of physics in the world.

The book suffers from an overconscientiousness of the translation, with consequent heaviness of style and at times a distressing obscurity of meaning. It is astonishing to learn, for instance, that the chest wall is in contact with the heart valves, that the brassy cough is brought about by "tracheal compression of the arch of the aorta," and that "the base of both lungs is formed by the diaphragm." Typographical errors are few, although several proper names are misspelled. The hyphenation of Austin Flint, which occurs almost consistently, is the most annoying of these errors.

For reasons which are not clear, Professor Martini departs from the time-honored and logical sequence of inspection, palpation, percussion, auscultation, usually placing palpation last. Perhaps it is only pedagogic bias which prefers the usual order, but to place auscultation before palpation in the examination of the abdomen and of the peripheral arteries seems awkward, if not positively heretical. Evidently Professor Martini and his American collaborators consider order of little consequence, as they return to the conventional sequence in the synopses at the end of each chapter.

The chapters on observation of the patient and on examination of the abdomen are especially excellent. Disciples of Richard Cabot will find fault with the discussion of mitral insufficiency, which is treated in the old-fashioned manner, failing to distinguish between fact and fancy. Otherwise the chapters on the circulatory and respiratory systems are satisfactory.

The work on the whole gives the impression of a series of somewhat rambling talks by a master of the subject, delivered to an audience already familiar with the subject, and expressed in a language which he does not speak with complete fluency. The advanced student and the practicing doctor will find it of more value than will the beginner.

G. D. B.

Treatment By Diet. By Clifford J. Barborka. Pp. 615. Illustrated. Philadelphia: J. B. Lippincott Company, 1934. Price, $5.

The author, drawing on his experience in practical dietetics at The Mayo Clinic and Northwestern University, has produced a work which will be of real value to physicians and patients in arranging proper dietary management for all types of ill health. The details are fully presented as well as are the general principles.

W. D.

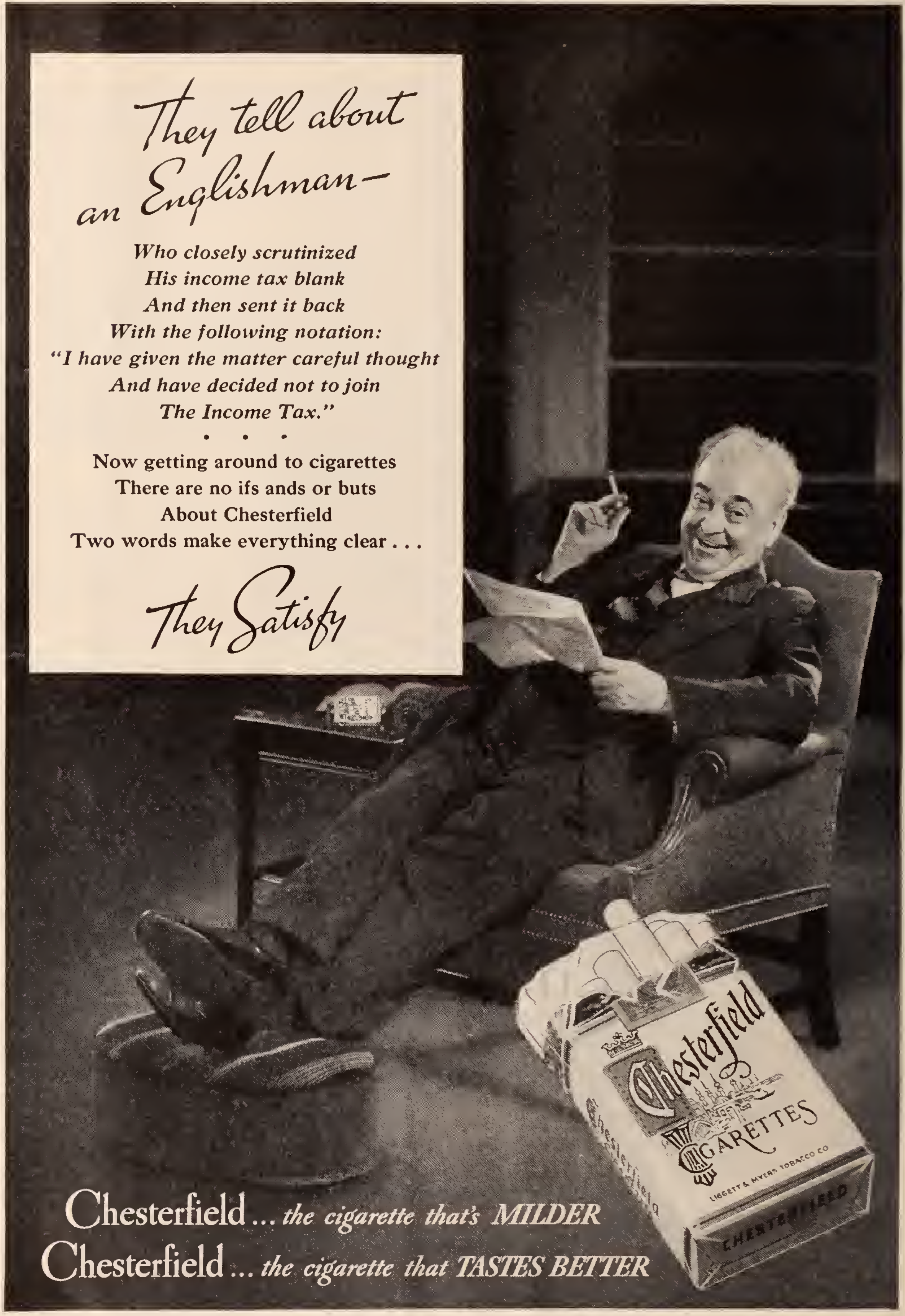
The Modern Method of Birth Control. By T. S. Welton. Pp. 154. New York: Walter J. Black, Inc., 1935. Price, $3.

Intended for the laity, this small book has two aims. The first is to give a clear and nontechnical explanation of the principles underlying the "rhythm" theory of fertility and nonfertility. The other is the provision of a simple plan for applying this theory in the case of any particular menstrual cycle. On this point he presents charts of about seventy types of menstrual cycles, both regular and irregular. Each woman determines the one applicable in her own case. Over this chart she lays a transparent "calendar-wheel" which at a glance will show her which dates of the current and following month will probably be fertile or sterile periods for her case. It is a clever device and should be easily and correctly applied even by women of low intelligence.

The point of view of the author is manifest in the following quotation: "The Catholic Church and certain other religious bodies have never sanctioned the use of contraceptives. Their thesis has been that the union of the sexes is a God-given function intended for creating in the likeness of the parents, and that any chemical contrivance intended for thwarting this purpose is contrary to the laws of Nature and of the Church. . . . Many methods devised for birth control are repulsive except to the hardened and calloused. To the women of refinement, possessed of noble sensibilities, they are unesthetic and revolting."

The author also states, "Both Ogino and Knaus, who are credited with discovering this method, report uni-

(Continued on Page 17)



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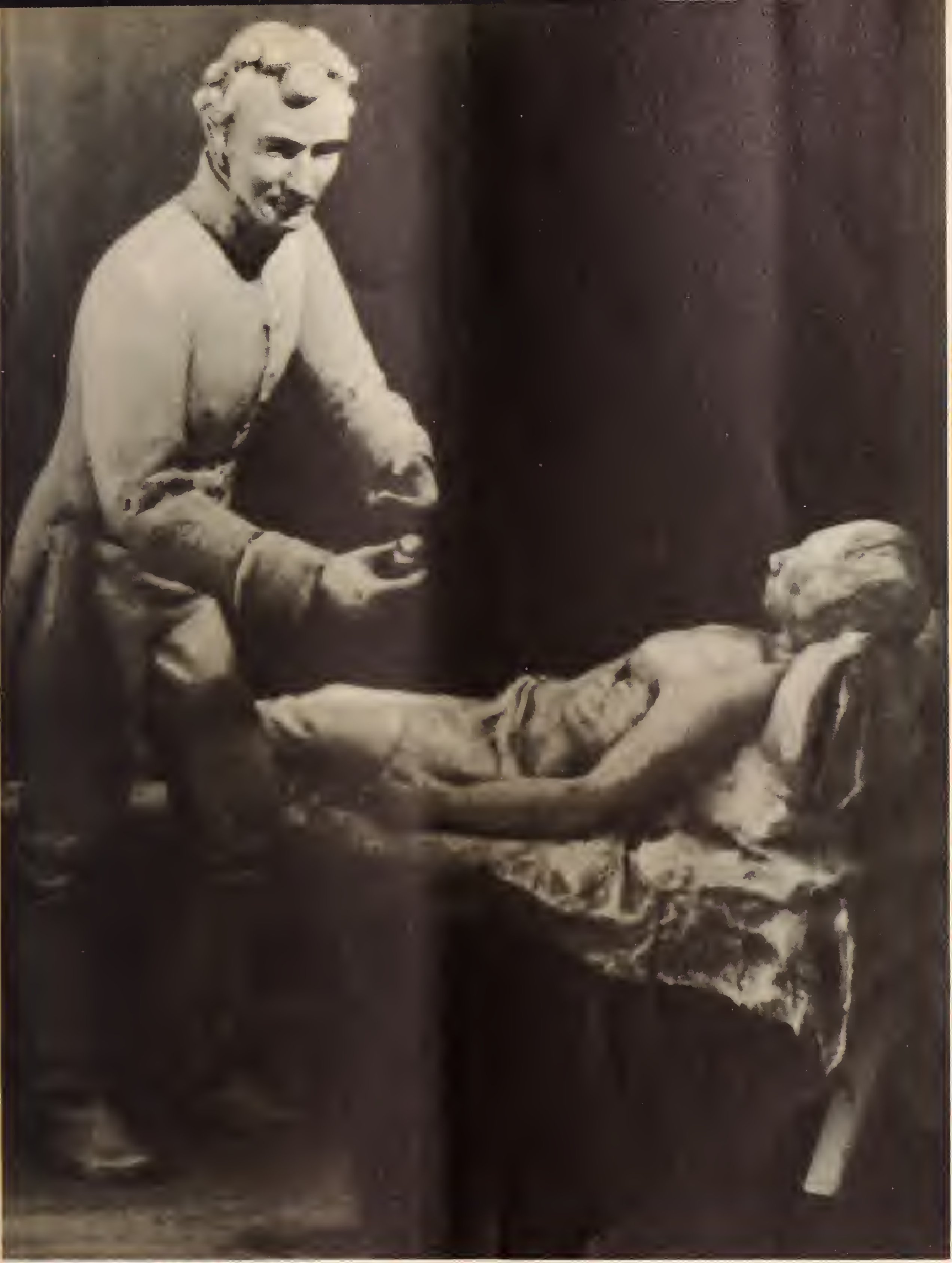

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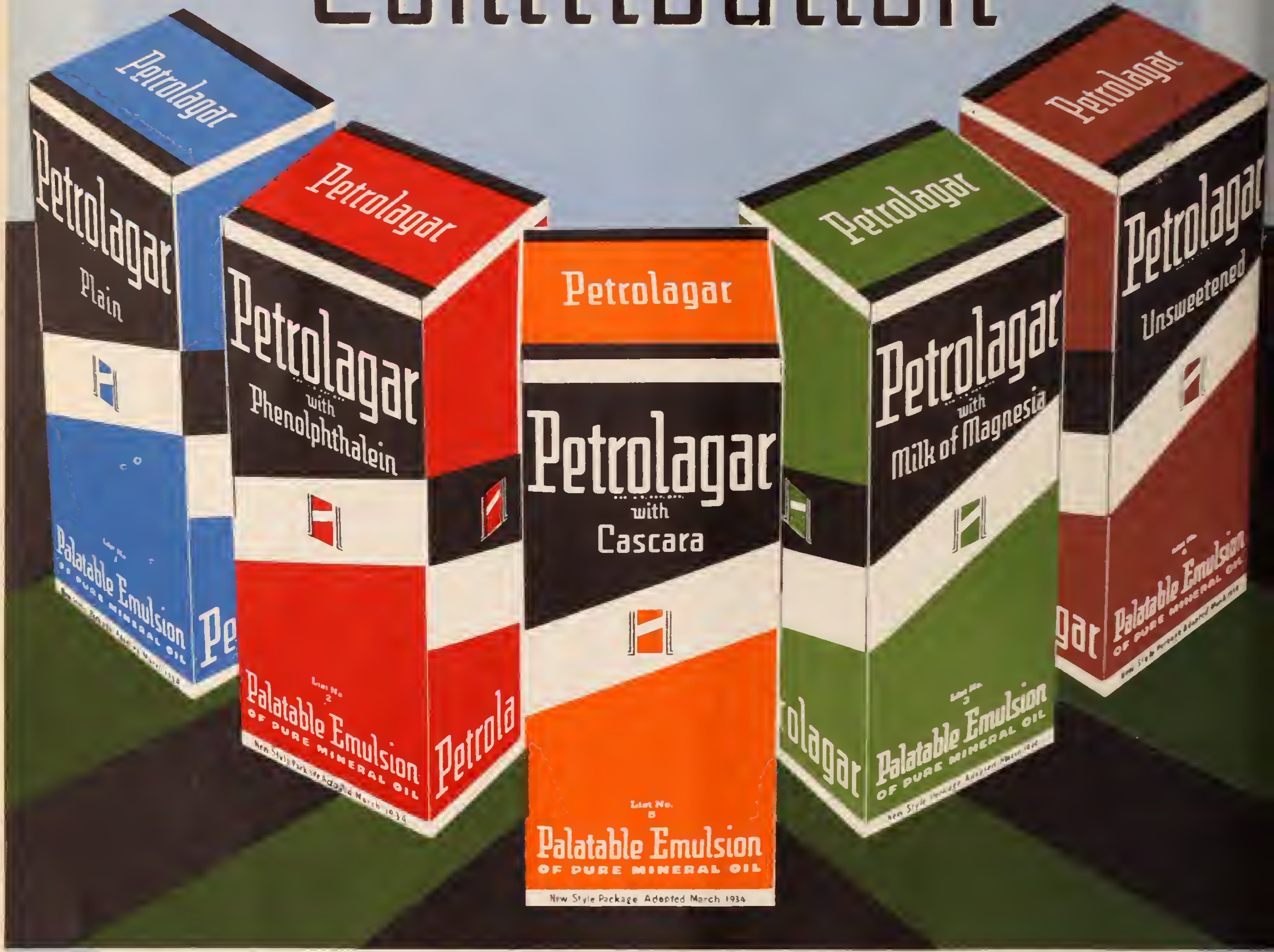
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BOOK REVIEWS

(Continued from Page 15)

formly excellent results. From available statistics the method is reliable in 97 per cent of all cases." This gives hope that the method, although quite young, may supersede more troublesome contraception programs now long in use. They surely are no more than 97 per cent effective as used by the general population. However, it may be well to allow several more years of experience with the rhythm method, critically observed at large clinics, before too sanguinely accepting it at face value.

Doctor Welton's book, however, appears to be open to serious criticism and attack. For there are statements in it which are the very foundation of the "rhythm" or "O. K." theory of infertility that are subject to critical scrutiny and discount. If discounted, the superstructure is much weakened and the thesis, which is presented for popular adoption for actual practice, will likely bring catastrophe to its adherents.

Perhaps, unfortunately, the thesis and its application have received the approval of the Roman Catholic Church, for this is apt to make discussants of it seem partisan and prejudiced. No such attitude is present in the mind of this reviewer, however. In all open-mindedness he would wish so influential an institution to sanction the use of an adequate family limitation practice that can be employed intelligently and volitionally by its public. In his opinion such an approbation would be of inestimable value to its public and to the public at large as well.

A rational, scientific, esthetic fertility-regulating procedure that will be at once simple of application and certain in results, is the desideratum. To date we have none that completely fulfills these essential requirements. But certainly the rhythm theory is farther from answering them than others available at present, and should be the subject of severe criticism, and perhaps even condemnation.

A dispassionate, scholarly and altogether excellent survey of the subject, including all present-day programs of contraception, has recently been published in this country.[1] It is written by an English physician, using (for good and obvious British reasons) a pseudonym, Michael Fielding, M. D. He so fairly and clearly evaluates the rhythm theory by the identical criteria used for all other practices that his opinion is pertinent here. "There is no need to underline the unsound theoretical foundations, the proved clinical ineffectiveness, or the esthetic crudity, of Ogino-Knaus contraception: a completely dispassionate analysis condemns the method on all these grounds" (page 205). In as much as the statement is founded on objective studies fully elaborated in his book, further comment here is not required.

R. F. R.

Physical Diagnosis. By W. P. Elmer and W. D. Rose. Pp. 919. St. Louis: C. V. Mosby Company, 1935. Price, $8.

This is the seventh edition of a work originally written by Doctor Rose and revised first by Doctor Elmer for its sixth edition. It is a large book—needlessly so, it would seem. But apparently it is intended to serve as a reference work for practitioners rather than as a textbook for students. The subject matter is presented under two heads. Part 1 deals with "the technic of physical examination and the physical examination of the normal body,"

(Continued on Next Page)

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[1] Parenthood: Design or Accident? A Manual of Birth Control. By Michael Fielding, M. D. With a Preface by H. G. Wells. The Vanguard Press, New York, 1935.

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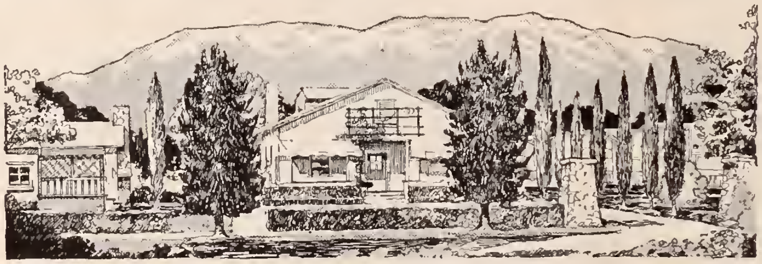

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BOOK REVIEWS

(Continued from Preceding Page)

while Part 2 outlines "the physical diagnosis of diseases of the respiratory and circulatory systems." Since mitral and aortic murmurs are described in Part 1 and again described in Part 2 under the corresponding valvular lesions, some repetitions in this respect were unavoidable. And aside from this circumstance seemingly the text might be shortened with advantage by the omission of controversial points and certain topics of minor interest. Under the latter head, for example, would come the discussion as regards the five "phases" of blood pressure; again, surely all that need be said about the percussion of the spleen can be set down in less than three and one-half pages; while, finally, if mitral regurgitation exists, per se, without mitral stenosis, it does not merit over nine pages of reading matter for its description.

On page 269 there is a misstatement of fact as to the changes of blood pressure in the standing and in the recumbent normal subject. Both medical literature and experience reveal that the diastolic pressure alone rises when the subject assumes the erect posture. The pulse pressure then falls and the systolic pressure too usually is lower, though it may remain unchanged. Only rarely does it rise.

The illustrations are excellent. And a satisfactory index is supplied—a feature indispensable in a book of this kind.

J. M. R.

Physiology in Modern Medicine. By J. J. R. MacLeod. Seventh edition. Pp. 1154. St. Louis: The C. V. Mosby Company, 1935. Price $8.50.

This is the seventh edition of the standard text by the late Regius Professor of Physiology at Aberdeen, and Nobel Prize recipient. The sections on neurology, special senses and carbohydrate metabolism are fully brought up to date, but that on the circulation seems almost antiquated. Electrocardiography is well presented, however.

(Continued on Page 20)

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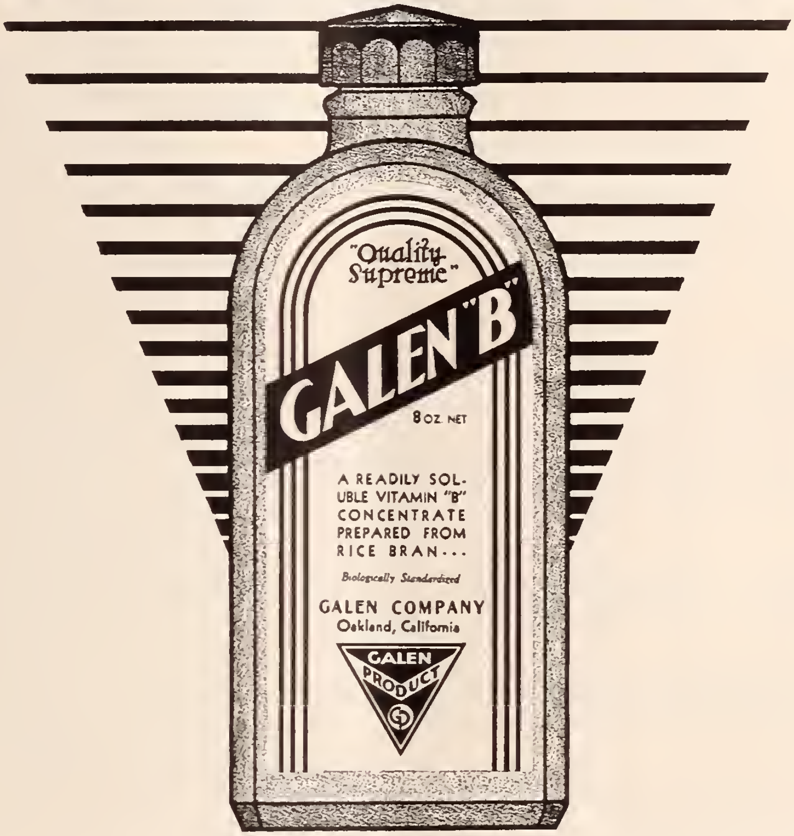
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BOOK REVIEWS

(Continued from Page 18)

and the volume remains a useful source of information for students and practitioners of medicine. W. D.

The Clinical Management of Syphilis. By Alvin Russell Harnes. Pp. 71. New York: The Macmillan Company, 1935. Price, $1.50.

All physicians who treat syphilitic patients should find this excellent little book useful as a reference text. Especially valuable are the numerous tables it contains wherein the author outlines for each type of case the suitable line of treatment. M. E. V.

Synopsis of Genito-Urinary Diseases. By Austin I. Dodson. Pp. 275. St. Louis: The C. V. Mosby Company, 1934. Price, $3.

Although a little more space might well have been devoted to various questions in regard to therapy, on the whole this book should be useful to the physician who occasionally treats a patient afflicted with a genito-urinary disease. M. E. V.

TWENTY-FIVE YEARS AGO

(Continued from Text Page 320)

can journals, I find it difficult to gather sufficient data to place before you a frank statement of the indications and contraindications for the use of this method of anesthesia. . . .

From an article on "Necessary Reforms Governing Medical Expert Testimony" by Thomas J. Orbison, M. D., Los Angeles.

It is of historical interest for us to know that the first expert evidence to be received by a court of law

(Continued on Page 22)

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TWENTY-FIVE YEARS AGO

(Continued from Page 20)

was from physicians. In the beginning it was given directly to the court. Not until 1665 was it given to a jury.

It was in a trial for witchcraft at Bury St. Edmunds that Doctor Browne, after viewing the respondents, gave the first expert medical testimony to a jury. He testified that they were witches. How prophetic of the kind of testimony the courts have had to guide them from that time to this. . . .

Symptomatology of Infantile Paralysis.—Probably no disease presents a more interesting clinical picture than the so-called acute anterior poliomyelitis of children, and although the ordinary textbook case is familiar to most of us, many articles have been published in the past few years about other symptoms of the disease arising from damage to the higher centers and called "polio-encephalitis." . . .

BOARD OF MEDICAL EXAMINERS

(Continued from Text Page 320)

bad-check charge while he was a student in medical school there" (Las Vegas, Nevada, *Review-Journal*, August 10, 1935). The name of Alton B. Mortenson is not shown in the 1934 American Medical Directory, or on the records of the Board of Medical Examiners.

"Details of an ingenious extortion plot by which two men who posed as detectives obtained $80 from M. D. Yung, Chinese doctor of 429 Broadway, after threatening to arrest him on a trumped-up charge if

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he didn't put up 'bail,' were revealed by police today. . . . The extortionists launched their plot Monday afternoon when a confederate approached the Chinese as he was sitting on a bench in Palisades Park, engaged him in conversation and finally talked him into going for a 'little ride' along the coast. . . . The men accompanied Doctor Yung to his home, where he gave them $80 in cash and two checks for a total of $170, he said. . . ." (Santa Monica *Outlook*, August 8, 1935.)

"Dr. Arthur Nelson, forty-two, who bought a wedding ring with an allegedly worthless check for a girl, although he was married to Emily Paddleford, whom he met when they were federal prisoners, yesterday was ordered held for trial in Superior Court on a charge of issuing a check without sufficient funds." . . . (Los Angeles *Illustrated Daily News*, August 21, 1935.) The records of the Board of Medical Examiners do not show any such licentiate.

"A Los Angeles osteopath yesterday lost in a battle of wits with the Federal Government and authorities of California and New York when he failed in a scheme to abandon his wife and child and establish a love sanctuary with another woman in Yokohama, Japan. The doctor, Theodore Griffin Worden, thirty-two, is in jail in Seattle on complaint of Somerset A. Owen, State Department passport agent in San Francisco. . . . According to Owen, Worden . . . released (in Los Angeles) on his own recognizance pending extradition proceedings, fled with the woman to Yoko-

(Continued on Next Page)

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BOARD OF MEDICAL EXAMINERS

(Continued from Preceding Page)

hama, giving the false name of Albert Aaron Gibson on his passport, according to Owen. They sailed from San Francisco. Worden, according to Owen, was born in Yokohama of American parents and encountered difficulty in practicing his profession under his assumed name. As a result he returned to the United States and attempted to again leave the country under his right name." (San Francisco *Chronicle*, August 9, 1935.)

"Murder complaints with demands for extremely heavy bail were issued yesterday as a result of revelations of alleged illegal operations in a pseudo-hospital at 227 West Fifty-first Street. In formal charges filed by the District Attorney's office, Harley W. Heddens, forty-two, and his wife, Rose Marie Heddens, were accused of causing the death Monday of 16-year-old Ruth Attaway, 1203 South Hicks Street. A second complaint charged that on August 12 they performed an illegal operation on Mrs. Mary DeWitt Kern, thirty-nine, of 4212½ South Hoover Street. In still another complaint Heddens and W. G. Brown were accused of an illegal operation August 17 on Mrs. Marguerite von Bellehem, twenty-two, of 102 South Mitchell Street, Long Beach. . . ." (Los Angeles *Examiner*, August 22, 1935.) There is no record in the office of the Board of Medical Examiners that Harley Heddens has any medical credentials.

"Helen of Troy, beauty specialist, hid her attractions behind smoked glasses and a deftly wielded purse yesterday when photographers sought to snap her picture as she went to trial before a jury in Municipal Judge Egan's court on a charge of violating the State Medical Practice Act. The beauty operator, also known as Ada Judge, is accused of treating Miss G. B. Rasmussen, 2036 West Seventy-seventh Street, for the removal of blemishes and scars. After treatments, extending from May 3 to June 14, other scars developed, Miss Rasmussen asserted. . . . After a jury had been selected and one witness heard, Miss Judge changed her plea to guilty and asked for probation." . . . (Los Angeles *Times*, August 22, 1935.)

"Dr. Elwood Reno, former assistant city physician, demanded a jury trial when arraigned in Justice Court here yesterday on a charge of failing and refusing to report a dangerous disease. . . ." (Press dispatch dated Reno, Nevada, August 29, printed in the Sacramento *Bee*, same date.) (Previous entry, July, 1928.)

"A jury in Judge A. F. Monroe's Justice Court last evening brought in a verdict of guilty of practicing medicine without a license in the case of three Hawthorne men tried on this charge—A. O. Borland, the father, and his two sons, J. H. and R. A. Borland, all of 147 East Delaware Street, Hawthorne, drugless and magnetic healers and naturopaths. . . ." (Inglewood *News*, September 6, 1935.

"More than one hundred convicts at San Quentin have requested sterilization. Dr. L. L. Stanley, prison physician, revealed this today after a ruling by Attorney General U. S. Webb that vasectomy operations can be performed without liability to the physician. The ruling was requested by Doctor Stanley when the large number of applications was received after he had placed a notice on the prison bulletin board.

(Continued on Page 26)

A Poor Scholar . . . because of a Poor Breakfast

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

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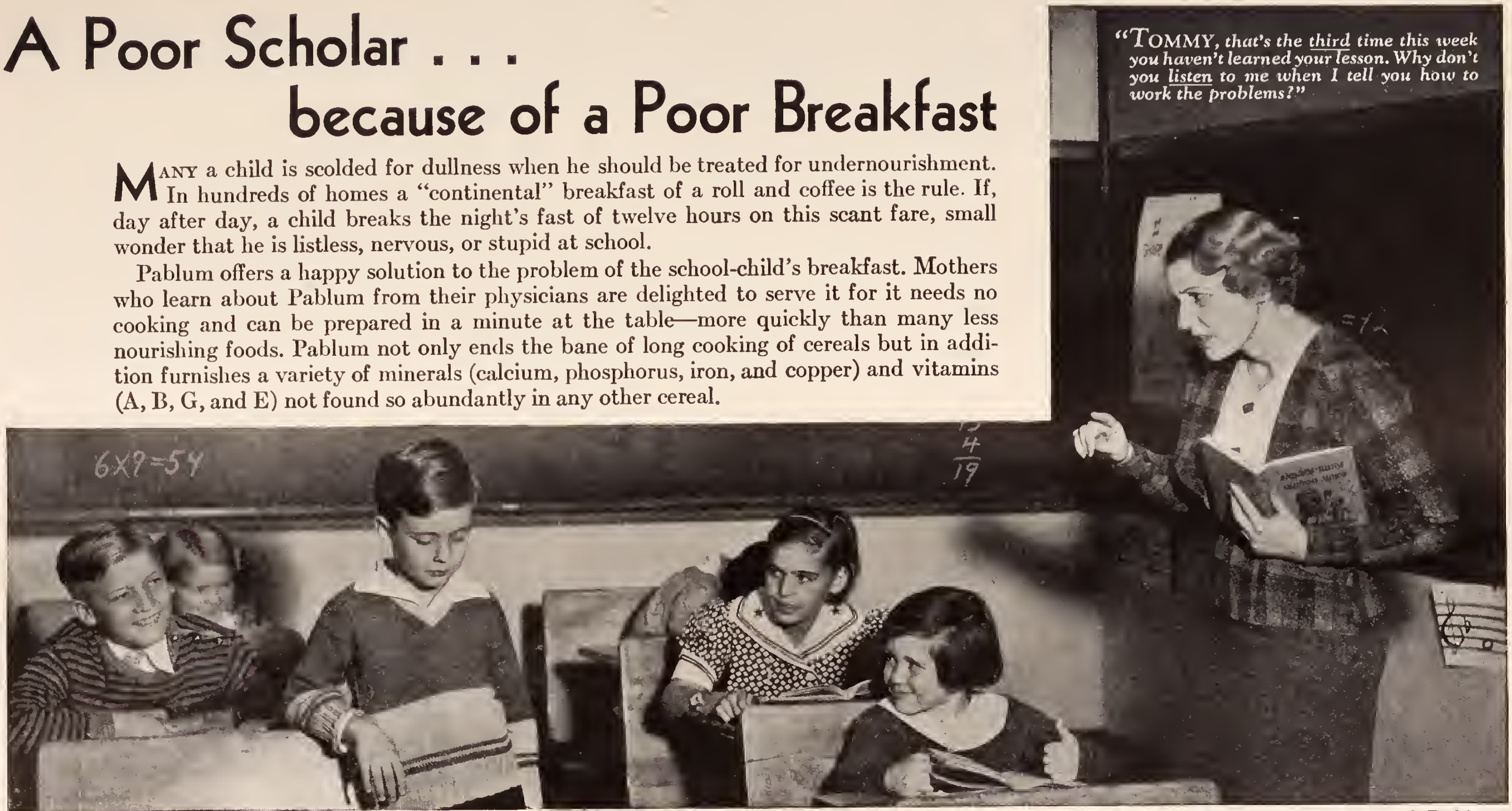

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BOARD OF MEDICAL EXAMINERS

(Continued from Page 24)

detailing benefits of the operation. 'Fearing that their criminal tendencies may be transferred to their children, the majority of them have expressed a desire to forego fatherhood,' the doctor said. . . . Webb held the operation was permissible if asked by a prisoner and no liability was attached to the physician. The Attorney General refused to give a ruling on operations performed on free citizens, holding that private and not public rights were involved." (San Francisco *Call-Bulletin*, September 11, 1935.)

It is reported that on August 22, in the Municipal Court of Long Beach, H. M. Hanson pleaded guilty to violation of the Medical Practice Act and was sentenced to pay a fine of $100. Seventy-five dollars of the fine was suspended on condition that the defendant refrain from further violation. Twenty-five dollars of the fine was paid.

The Board's investigation department reports that on August 29, in the Justice Court, El Cajon Township, San Diego, Earl V. Adams, M. D., pleaded guilty to a charge of violation of the Medical Practice Act and was sentenced to pay a fine of $100 or serve fifty days in jail, sentence being suspended for six months on condition that he refrain from violating any county ordinance or state or national law during the period of his suspended sentence.

Investigation reports relate that on September 10, 1935, in the Justice Court of El Cajon Township, San Diego County, George E. Shields, M.D., who hails from Arizona, was found guilty of violations of the Medical Practice Act and sentenced to pay a fine of $100 or serve twenty days in the county jail. Seventy-five dollars of the fine was suspended and a fifteen-day stay of execution granted pending possible appeal.

Fred Bernhoff, reported to have treated approximately a dozen patients in the vicinity of Venice, California, without the formality of obtaining a license, entitling him so to do, on September 5 was reported to have pleaded guilty in the Municipal Court of Los Angeles to a charge of violation of the Medical Practice Act and was sentenced to pay a fine of $500 and serve one hundred days in the city jail. Four hundred dollars of the fine and eighty days of the jail sentence

(Continued on Page 29)

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BOARD OF MEDICAL EXAMINERS

(Continued from Page 26)

were suspended on condition of no further violation. The remaining twenty days of the jail sentence is to be suspended, provided the fine is paid.

H. DeBus, D. C., a licensed chiropractor, is reported to have been found guilty on September 6 in the Justice Court, Pine Knot, San Bernardino County, on a charge of violation of the State Chiropractic Act and was sentenced to pay a fine of $100 or serve fifty days in the county jail, sentence suspended. Sentence was suspended and he was placed on probation for eight months.

Milk-borne Epidemics in 1934.—Unpasteurized milk continues to be the source of numerous epidemics of disease, according to a report on milk-borne epidemics in the United States for the year 1934, made by Dr. S. J. Crumbine, field secretary of the Conference of State and Provincial Health Authorities of North America, and released by the American Child Health Association in its *Bulletin* for July.

The report shows forty epidemics, 1,324 cases and forty-four deaths as having occurred in 1934 in eighteen states of the Union. Twenty-one of the epidemics were of typhoid fever and nine of septic sore throat, while four of gastro-enteritis, three of scarlet fever, two or undulant fever, and one of diphtheria made up the balance.

All but one of the epidemics were caused by raw milk, and in the single exception there is a doubt as to whether the whole of the milk supply was pasteurized. An incident related in the report furnishes an example of the risk attendant on drinking raw milk. In Westchester County, New York, last September, a milk truck carrying eight thousand quarts of raw milk was wrecked on its way to the pasteurizing plant. Next day a number of persons from two different communities helped themselves to the milk, carrying it away in pitchers and pails. Some of the milk was also put in the empty cans of a local dairy and taken to a third place. Three days after the accident, cases of gastro-enteritis began to appear in all three places among the people who had drunk the milk.

As in previous years, according to the report, "carriers" are found to be the greatest single source of milk contamination, having caused 39 per cent of the epidemics in 1934. In one state, relatives visiting a dairy and assisting in the work, were innocently responsible for an epidemic of typhoid fever, both proving to be carriers of typhoid fever germs. "Visit-

(Continued on Next Page)

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(Continued from Preceding Page)

ors to dairy farms, be they relatives, neighbors, or strangers, should be considered as potential hazards to the safety of the milk supply if they are permitted to take any part in the production or distribution of the milk."

The report reveals that the smallest communities suffer the greatest number of milk-borne epidemics. In 1934, thirty-one of the forty epidemics occurred in communities of less than five thousand population. "It is time that the smaller cities and towns realized that they are not invulnerable to serious epidemics of milk-borne diseases unless they have effective pasteurization and public health supervision of all milk supplies."

Emphasis is put on the proof which the one epidemic of diphtheria, due to contaminated milk, gives of the value of immunization. Eight cases of diphtheria developed among the customers of a single dairy before the dairyman was discovered to be suffering from a mild attack of the disease, and the sale of the milk stopped. "All the cases were of adults," says the report; "the children of the families involved had been immunized the previous spring with toxoid. This incident illustrates the value of securing immunization against diphtheria for every child in America."

In closing, the report calls attention to the resolution passed by the Conference of Health Authorities at its previous meeting, in which it advocated that all milk intended for human consumption should be effectively pasteurized.

The Medico's Nightly Examination as Suggested by Mexican Doctor.—Where is the physician who does not desire to be busy and prosperous? But is he sufficiently assiduous and honest with himself in the frequent and regular examination of his conscience as to whether he is doing his full duty toward his patients, his confrères, and the public.

Dr. Alfonso Pruneda of Mexico has given some suggestions as to a personal questionnaire, which he believes each physician should go through each night, answering all questions honestly in his own heart, and, if these answers are unsatisfactory, so shaping his conduct during future days that he will not be ashamed of his own company when he is alone.

Doctor Pruneda's questions are both pertinent and penetrating. Is any physician bold enough to try the experiment of asking and answering them without equivocation or evasion or mental reservation of any kind, every night for a while, to see what the result will be.

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2. Have I made any unnecessary visits, for purely financial reasons, without having been called in or where the condition of the patient did not necessitate my presence?
3. Have I been too hasty with any patient, making a superficial examination or prescribing in a routine manner, without giving serious thought to the definite value of my suggestions for the case in hand?
4. Have I prescribed any remedies which might be harmful to any patient by reason of my lack of knowledge of the exact properties and effects of such remedies?
5. Have I put any patient's life in jeopardy by experimenting upon him with drugs with whose powers and actions I was insufficiently familiar?
6. Have I caused the death of any patient by prescribing contraindicated remedies by lack of attention or by faulty judgment?
7. Have I prescribed doubtful remedies when more certain ones were available, in a spirit of false pride, because the better ones had been suggested by someone else?
8. When prompt-acting remedies were available, have I given those which act more slowly in order that I might make more calls?
9. Have I prescribed unnecessary drugs in order to help out some pharmacist who had them in stock?
10. In consultations, have I called in a personal friend, rather than the man best equipped to give sound advice in the case in hand?
11. Have I made any unwarrantable charges?
12. Have I made any false or exaggerated statements in order to enable a patient to receive benefits of any kind to which he was not entitled?
13. Have I revealed any professional secrets, the discovery of which might be prejudicial to the reputation of anyone who has confided in me?

If this "daily (baker's) dozen" of spiritual exercises were persisted in regularly for a period of several weeks or months, there can be no doubt that it would produce marked changes in the conduct of most physicians; and there can be equally little doubt that these changes would be such as to render them more useful and valuable medical advisers, neighbors, friends and members of their communities.—*Medical Age.*

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CALIFORNIA AND WESTERN MEDICINE

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Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this Journal write to its office requesting a copy of this leaflet.

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EDITORIALS†

ASSEMBLY BILL 246—CHAPTER 386: THE NONPROFIT HOSPITAL SERVICE BILL

Text of This Law Was Printed in the August Issue: Should Be Read.—The text of this important California statute, which became operative at midnight of September 14, 1935, was printed in full on page 175 of the August issue. Members of the California Medical Association who have not taken the time to read and reflect upon its nature and scope, particularly in relation to its possible effects upon private medical practice, are again urged to do so. The officers of the Association have given earnest thought to the measure, but the path along which to proceed, in order properly to safeguard the interests of scientific and organized medicine, is no more easy to find for officers than for the members at large. Therefore, at an early meeting of each component county society, the new law should be analyzed and discussed, either by a committee to which it has been submitted for study, or by one or more members who are sufficiently interested to be willing to open a discussion on the new statute's merits and demerits. The officers of the State Association will welcome reports from all component county units; and if such are received, the Council of the Association will be in better position to carry out the members' wishes. Otherwise, county societies must share in the blame, if later events show that mistakes in procedure have been made.

* * *

Recent Council Meeting Was a Two-Day Session.—Because of the importance of this and several other matters which had places on the docket, the last meeting of the California Medical Association Council was a two-, instead of a one-day session. The meeting, the minutes of which are printed on page 302 of this issue, was held on September 7 and 8, in the headquarters building of the Los Angeles County Medical Association; and it will be noted that members of the Council were thus willing to give two days to a consideration of problems related to the interests of the members of the Association. Reciprocally, members of the Association should now be disposed to give a far lesser time period to deliberation as to their personal interests involved in this law, and it is hoped, therefore, that they will so devote the time required to at least read Assembly Bill No. 246 and the comments thereon.

---

† Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

We have stated, in previous issues, that some of the text of this new legislative enactment was not as explicit as might be desired. This deficiency came about, in part, because certain amendments proposed by representatives of the Association failed to reach Sacramento, owing to delay in the mails, for what seemed, at the time, to be the last meeting of the reference committee having the bill in charge; and in order not to jeopardize its chances in the last days of the legislative session, and because several county societies wished for the passage of this type of bill, the proposed law was permitted to pass out of the committee to the floor for final vote, lacking certain desirable amendments.

* * *

The Definition of "Hospital Care."—Without going into a detailed discussion of the Act which went into force on September 15, 1935, we shall here refer to and comment upon two excerpts, which indicate some of the problems still to be solved before the new law can be put into satisfactory operation.

The first quotation will be the four-line paragraph on "Hospital care," having the caption, "Section 1a," and reading as follows:

> "Sec. 1a. 'Hospital care,' as used in this Act, may include any or all of the following services: maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep."

* * *

The Place of Clinical Laboratory and X-ray Service.—Referring to the paragraph quoted above, it may be stated that "clinical laboratory service" and "x-ray service," each of which, in recent years, has been part and parcel of the institutional activities of many hospitals in California and other states, are not mentioned in Section 1a of Assembly Bill No. 246.

Owing to that fact, and because the California State Board of Health, by the terms of the Act, is required to furnish a statement "certifying that it [the corporation operating a nonprofit hospital service] is complying with the standards required by the State Department of Public Health," the president of that board, Dr. Howard Morrow of San Francisco, thought it desirable to secure an opinion from the Attorney-General of California on certain points.

* * *

The Opinion of the State's Attorney-General Must Be Followed.—Because the Attorney-General's opinion is that which state boards and officials must observe, until contrary opinions are expressed by the courts or the Attorney-General's office, it may be in order to refer to a letter received by President Morrow of the State Board of Health from Deputy Attorney-General Lionel Browne.

A perusal of the opinion which was rendered will indicate at once some of the legal intricacies which arise when this type of legislation, no matter how well-meant or well-written, is placed on the statute books of a commonwealth.

* * *

Deputy Attorney-General Browne's Opinion.—The point of view of Deputy Attorney-General Browne (counsel for the California State Board of Health and the California State Board of Medical Examiners*) is of such importance that we take the liberty of quoting it in full:

STATE OF CALIFORNIA
LEGAL DEPARTMENT

San Francisco,
September 4, 1935.

Department of Public Health,
312 State Building,
San Francisco, California.

Attention: Howard Morrow, M. D.,
President, Board of Public Health.

Gentlemen:

In your communication of August 30, you refer to Chapter 386, Statutes of 1935, being "An Act for the regulation and control of corporations organized for the purpose of operating nonprofit hospital service plans." You point out that Section 1 provides what corporations may provide hospital care, the latter term being defined in Section 1a as follows:

"'Hospital care' as used in this Act may include any or all of the following services: maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep."

You ask whether the Act referred to contravenes the provisions of the Medical Practice Act, pointing out that hospitals have established clinical pathological laboratories for the performance of necessary hospital work for doctors and patients, as well as x-ray departments for x-ray diagnosis and treatment.

In reply permit me to state that in my opinion this Act does not contravene the provisions of the Medical Practice Act. While Section 1a provides for "care in hospital . . . physiotherapy . . . , material appliances and their upkeep," this language is to be construed in harmony with the provisions of the Medical Practice Act rather than as a possible amendment to it. So interpreted, Chapter 386 will not permit a corporation to contract to furnish medical attention or, in fact, do so. It will likewise not permit the supplying of physiotherapy, material appliances, or the upkeep of the latter, if the supplying thereof requires the doing of an act which would contravene the provisions of Section 17 of the State Medical Practice Act. The latter section prohibits one not licensed as a physician and surgeon from advertising or holding "himself out as practicing, any system or mode of treating the sick or afflicted in this State." It likewise prevents an unlicensed person from diagnosing, treating, operating for, or prescribing for any ailment, blemish, deformity, disease, disfigurement, disorder, injury, or other mental or physical condition of any person.

As to your statement that hospitals have established clinical pathological laboratories for the performance of necessary hospital work for doctors and patients, as well as x-ray departments for x-ray diagnosis and treatment, I would state that while hospitals have the right to conduct certain technical work in clinical pathological laboratories, and to pay pathologists therefor, the pathologist must do purely technical work and cannot practice medicine unless licensed so to do. For example, an unlicensed person might make a technical examination to determine whether a specific germ or germs might be found in a given sample, but would not be permitted to diagnose a patient's condition. Such diagnosis would have to be by a licensed person.

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* See also page 119 of the August issue for the article by Deputy Attorney-General Browne, on "Regulation of the Professions by the State."

As to your statement that x-ray departments are established in hospitals for x-ray diagnosis and treatment, such hospitals paying unlicensed radiologists a salary, salary and commission or by commission alone, I would state that if the taking of an x-ray constitutes the practice of medicine, such unlicensed radiologists are violating the provisions of the State Medical Practice Act. Whether the taking of an x-ray constitutes the practice of medicine is a mooted question, at present under consideration by the Superior Court of the City and County of San Francisco. In such case it has been contended that the taking of an x-ray is an integral part of the practice of medicine, that it is a dangerous instrumentality and should not be permitted by other than a trained medical man. Whether this contention will be sustained is a question that cannot at this time be determined. However, I would state that there is no doubt but that the use of the x-ray in alleviating a mental or physical condition does constitute the practice of medicine, and that no hospital has the right to collect money for x-ray treatments and to compensate either a licensed or an unlicensed radiologist by way of salary, salary and commission, or commission alone. The only persons who may treat by x-ray and make a charge for so doing are those licensed to practice medicine and surgery, and it would seem that if such licensed persons permitted unlicensed persons to share compensation charged for such treatment they would be aiding and abetting an unlicensed practitioner, contrary to the provisions of the State Medical Practice Act.

In conclusion, I would state that, according to the view of this office, corporations may contract to furnish pathological services only where such pathological services do not constitute the practice of medicine. It is likewise my view, pending the decision in the case of in re application of McGranaghan, the matter [in the San Francisco Superior Court] above referred to, that corporations can contract to furnish nonmedical services of radiologists, whether such radiologists be licensed or unlicensed, but that unlicensed persons cannot treat a mental or physical condition of a human being.

I am prepared to say that both pathology and radiology may be divided into technical and professional fields.

Very truly yours,

U. S. Webb, *Attorney-General.*
By (Signed) Lionel Browne, *Deputy.*

* * *

Based on the Attorney-General's Opinion, What Shall Be the Course of Action?—It is to be remembered, whether one agrees with or does not agree with Deputy Attorney-General Browne, that his opinion, as stated above, must be followed until overruled by higher legal authority; and members of the profession should keep this fact in mind, because what concerns physicians in all this, are not academic opinions of a disputant nature, but that course of action which, according to the constituted law of the land, must be followed.

* * *

Certification by the State Board of Health.—Having considered the above at some length, let us now briefly take up some of the problems which have been thrust upon the State Board of Health, in so far as the certification of corporations organized for nonprofit hospital service is concerned. The language of Assembly Bill No. 246, Chapter 386, includes in its Section 1 the following:

" . . . ; and provided further that no corporation authorized by the provisions of this Act to establish, maintain and operate a nonprofit hospital service plan may itself furnish hospital care to its subscribers or do any of the acts herein authorized, unless and until it shall have first procured a certificate from the State Department of Public Health certifying that it is complying with the standards required by said State Department of Public Health; nor shall any such corporation enter into any contract with any hospital for the furnishing of hospital care to its subscribers unless the hospital with which it contracts has procured such a certificate from the State Department of Public Health."

* * *

What Shall Be the Standards Set for a Corporation Operating a Nonprofit Hospital Service?—Certainly the above is somewhat of a large contract to add to the many other legal responsibilities of the State Board of Health. However, Chapter 386 of the statutes is now the established law, and of necessity, the members of the Board must ask themselves what requirements or standards shall be demanded, before a corporation receives the State Health Board's sanction to operate a nonprofit hospital? Among such questions upon which the board may be called to give some decision, the following may be enumerated:

(*a*) That each corporation applicant shall establish, to the satisfaction of the Board, that it is not wholly or partly supported by taxation except where the applicant is the only hospital in the county where it is located, or is a hospital maintained and operated by or in connection with a state college or university of the State of California in conjunction with and as a part of its educational and administrative program.

(*b*) That any such hospital wholly or partly supported by taxation (and the only hospital in the county where it is located) shall be operated for residents of such county only; any such hospital maintained and operated by or in connection with a state college or university of the State of California shall be maintained and operated only so far as necessary for its educational and administrative program.

(*c*) That each applicant corporation shall establish, to the satisfaction of the Board, that the services which it proposes to furnish shall include only maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep, and shall not include pathological, roentgenological, anesthetic, or any other professional services of any physician.

(*d*) That each applicant corporation shall establish, to the satisfaction of the State Board of Health, that it or any of its agents or representatives is not organized, maintained, or operated for the purpose, directly or indirectly of acting as a capper or steerer or of obtaining patients for any physician or physicians.

(*e*) That the articles of incorporation and by-laws of each applicant corporation shall provide that any excess of income over reserves shall be devoted to the betterment of the service furnished subscribers, and that under no circumstances or conditions shall the applicant or any shareholder, member officer, director, or owner of any interest in the applicant be entitled to receive any part or portion thereof other than a reasonable compensation for services actually rendered in the operation and maintenance of applicant.

(*f*) That the articles of incorporation, by-laws, or other contractual papers or document of applicant corporation shall provide that in the event that applicant ceases business, any surplus remaining shall be distributable and devoted to the subscribers and contract holders.

(*g*) That all contracts for hospital care shall include at least the following: ward bed, board, general nursing service, operating-room service, medical and surgical dressings, and drugs other than compounded prescriptions and proprietary drugs. No conditions or exceptions shall be contained in such contracts other than for insanity and chronic tuberculosis. All such contracts shall provide at least twenty-one days of twenty-four hours each of hospital service per annum. The proposed hospital contract shall in all other respects be fair, just, and equitable to the purchasers thereof, and such as will not work a fraud or injustice upon any intended subscriber, member, beneficiary, or other person.

(*h*) That the applicant corporation must establish, to the satisfaction of the State Board of Health, that it is able to adequately provide the hospital care which it proposes to offer to purchasers thereof.

(*i*) That the applicant corporation shall specify the rates, dues, fees, or other charges to be imposed upon subscribers, members, beneficiaries, and other purchasers thereof.

(*j*) That the contracts, membership certificates or other documents evidencing the right of the purchaser to hospital care, shall be submitted to, and approved by the State Board of Health, and no other documents shall be used. Such documents must show on their face the times at which the benefits take effect and terminate, whether the contract purports to benefit more than one person thereunder, and must include a plain and complete statement of the membership charges, dues or contributions or payments which shall be in such amount as shall be reasonably required to maintain and provide the service offered without profit.

(*k*) That the contract and any endorsement or attached papers must be plainly printed or typed, of which the type shall not be smaller than 10 point. The exclusions and exceptions must be printed with greater prominence than the benefits to which they apply. If any portion of the contract purports by reason of the circumstances under which an illness, injury or disablement is incurred to reduce any services to less than that provided for the same illness, injury, or disablement incurred under ordinary circumstances, such portion must be printed in bold-face type and with greater prominence than any other portion of the contract.

(*l*) That if the contract contains any provisions purporting to make any portion of the charter, constitution or by-laws of the corporation a part of the contract, such portion must be set forth in full in the contract.

(*m*) That each such contract must contain the following in prominent black-face type not less than 10 point: "Nothing in this contract contained shall in any way or manner restrict or interfere with the right of the subscriber (member or beneficiary) to make a free choice of his attending physician, who shall be the holder of a valid and unrevoked physicians and surgeon's certificate, and who shall have the right to attend the subscriber (member or beneficiary) professionally in any hospital furnishing hospital service provided by this contract (certificate)."

(*n*) That each applicant corporation shall agree to and with the State Department of Public Health that every subscriber, beneficiary or contract holder shall have the right to be attended in its hospital or any hospital with which it contracts, by the physician who is the holder of a valid and unrevoked physician's and surgeon's certificate while receiving the care provided for in such contract (certificate).

(*o*) That each such applicant corporation shall specify what portion of the consideration received by it from its intended subscribers, members or contract holders, is to be expended for purposes other than the furnishing of hospital care, and no applicant shall be licensed hereunder by the State Department of Public Health which expends more than —— per cent of the —— periodic payments therefor.

(*p*) That every applicant corporation shall specify the portion of the dues, fees or contract payments to be received from its members, subscribers or contract holders to be devoted for the solicitation of members, subscribers or contract holders, and not more than —— per cent of the first —— months' payments therefor shall be expended for such purpose. Every applicant shall specify the portion of the dues, fees or contract payments to be received from its members, subscribers or contract holders to be devoted to administration of applicant, and not more than —— per cent thereof shall be expended for such purpose.

(*q*) That the applicant shall submit to the State Department of Public Health all promotional and advertising matter which it proposes to issue, whether verbally or in writing, and no representations, advertisements, or promotional matter of any kind shall be issued by the applicant except that submitted to and approved by the State Board of Public Health. (As Corporation Commissioner rules in matters of this nature.)

(*r*) That the applicant corporation shall specify and expressly agree to and with the State Department of Public Health that no physician and surgeon shall attend the members, subscribers or contract holders through more than one bona fide assistant; all other attendance shall be by the physician selected by the subscriber, member or contract holder personally.

(*s*) That every applicant corporation shall state the names of its directors, officers, managers, and operating executives, their addresses, their qualifications and experience, to render the hospital care proposed to be furnished, and shall fully describe the hospital facilities; and if the hospital care is to be furnished by hospitals under contract, the names, addresses, locations and full descriptions of such hospitals, with full and complete copy of all contractural documents entered into or proposed to be entered into between applicant and any such hospital or hospitals.

(*t*) That every certificate issued by the State Department of Public Health shall be issued for a period not exceeding one year, and every recipient thereof shall be required to renew its application annually for extension thereof.

* * *

Component County Societies and Members Are Invited to Make Further Suggestions.—At this point we are tempted to wonder how many members have taken the time to read all the foregoing? It is to be hoped that many have done so; but for those who have not even scanned the above, it may be stated that all these and other questions of policy must necessarily be taken up for consideration by both the Health and Insurance Departments of the State of California, and that in equal, though unofficial measure, they are of interest and importance to the officers and members of the California Medical Association. Therefore, an invitation is extended to component county societies and to individual members of the medical profession to feel free to send any further suggestions to the Association secretary, whose office will note their contents and then transmit them to the State Board of Health.

Let it be remembered, at the present time, that the proposition which faces the citizens of California and its medical profession is not whether Assembly Bill No. 246—Chapter 386 is a good or poor law, or desirable or undesirable, but how this new statute can so be administered that it will work in fullest measure both to the mutual best interests of the people of California, and of scientific and organized medicine.

PSITTACOSIS IN CALIFORNIA

Birds of the Psittacine (Parrot) Family Responsible for a New Disease.—Whether some choose to believe it or not, the fact remains that there is a disease known as psittacosis, found in birds of the psittacine (parrot) family. And, further, that human beings can and do contract that disease.

In this issue, as reported on page 257, three cases are presented: two by Doctor Steele of Santa Barbara; the third, that of Dr. H. E. Hasseltine, an officer in the United States Public Health Service.

* * *

Psittacosis Has Been an Important California Public Health Problem.—No recent public health activity has given the California State Board of Health more distress, or taken more time for proper study, than the efforts necessary in the last several years to eradicate psittacosis in California, and to eliminate it as a cause of human illness and death. Several factors complicate the solution of the problem—among them, first, the fact that the raising of parrots ("love birds" in particular), is an industry of considerable importance in Southern California; secondly, that owners of many of the aviaries are citizens of very moderate means, to whom the quarantining of aviaries often means a personal and serious bread-and-butter consideration; third, that shipment of parrakeets to other states involves the United States Public Health Service; and fourth, lack of legislative appropriation to compensate owners for birds ordered to be destroyed by the representatives of the State Board of Health adds to the complexities of the situation.

The economic extent of the parrot-breeding industry, and the amount of laboratory investigation carried on by the State Board of Health may be gleaned from portions of a letter of July 19 to the Board's president:

> "The survey, which we have conducted in Los Angeles County, shows there are 302 commercial aviaries with parrakeets listed as 39,233. (Including those in private aviaries, there are 56,000.) There have been 112 aviaries certified in the State in the past year, eighty-three of these being in this county.
>
> "Since Miss Bech (technician pathologist of the Board) came down here in March, 1934, she has autopsied 11,000 birds (approximately)."

* * *

Psittacosis Regulations Have Caused More or Less Irritation in the Industry.—As before stated, a very considerable number of citizens who have taken up the breeding of birds of the parrot family, as a major or as a side-line, are persons in comparatively humble economic circumstances. When such persons possess aviaries containing several hundreds of birds, and the aviaries are kept in quarantine for months, the cost of feed and care may amount to considerable sums. Many of these citizens have been propagandized by others of their fellows, who hold that there is no such disease as psittacosis, and that the restrictions placed upon the breeding, sale and shipment of parrots by the California State Board of Health are not necessary. From individuals, and from organizations representing the industry, therefore, protests have been registered with the California State Board, with members of the legislature and other state officials.

State Regulations Were Necessary to Prevent a Federal Embargo on Shipments.—The State Board of Health, however, has had no option in the premises, because outbreaks of psittacosis in Minnesota, Pennsylvania and elsewhere, traced to parrakeet shipments presumably from California, led the United States Public Health Service to inform the California authorities that, if the State Health Department did not exercise adequate supervision, then the Federal Government would place an embargo upon all interstate shipments of birds of the psittacine family.

* * *

Federal Public Health Service Objects to Less Strict Regulations.—Recently the request of a group of aviary owners for an amelioration of the requirements for certification of shipment of interstate psittacine birds was forwarded to Surgeon-General H. S. Cummings; and in a reply, dated August 14, 1935, sent to the California State Board of Health, the Surgeon-General wrote as follows:

> "Since experience with the enforcement of your existing State regulations over a period of more than a year has demonstrated that these regulations apparently are giving satisfactory protection to the other states against the transmission of psittacosis through interstate shipments, the Public Health Service would not look with favor upon any change at this time.
>
> "While this office has expressed the view that the use of young birds for testing purposes would appear to be satisfactory, purely from a scientific standpoint, this statement should not be taken as an indication that the Public Health Service recommends the substitution of this method for the procedure now used by the State of California, which calls for the testing of both immature and mature birds.
>
> "It is suggested that the bird breeders again be informed that should any change in procedure required under the existing regulations result in another outbreak of psittacosis traceable to California through an interstate shipment, the Public Health Service would not temporize further, but would recommend an absolute quarantine against all shipments to other states."

* * *

The Present Status of the Psittacosis Problem.—A perusal of the above makes it very evident that the Federal Government will tolerate no letting down in the rules and regulations having to do with interstate shipments, upon which depend largely the profits from the industry; and as it is apparent that psittacosis must be included in the list of diseases only recently recognized as having possibility of serious menace to the public health, the work already done in California largely through the coöperation of Dr. Karl F. Meyer, director of the Hooper Foundation of Medical Research of the University of California, is worthy of special attention. It is true that the State Health Board was required to change its regulations from time to time as new facts concerning the disease were proven; but at all times an effort has been made to be as lenient as considerations warranted. The study of psittacosis continues to receive earnest attention in the Hooper Foundation laboratories in the Medical Center in San Francisco.

Physicians Should Read Doctor Steele's Reports on the Santa Barbara Cases.—Attention is called to an article by Doctor Meyer printed on page 260, in which the incidence of psittacosis among wild birds of the psittacine family in Australia is discussed; and we conclude our own comments by calling attention to a memorandum received from Doctor Meyer, and which we have appended in the nature of a discussion to the paper sent in by Doctor Steele—wherein it will be noted that Doctor Meyer declares his belief, that "the importation of Central American Amazon parrots into California should be prohibited."

It is to be hoped that members of the California Medical Association will avail themselves of the opportunity to read the case reports submitted by Doctor Steele, because psittacosis is a disease that may be easily confused with other conditions, and the symptoms and signs should be known by all physicians, so that when sporadic instances of the disease do occur, they can be recognized.

AMBULANCE CHASING

"Ambulance Chasing": An Unethical Conduct in Legal and Medical Professions.—An example of "ambulance chasing" which, in some communities is an evil that has grown with all the vigor of rank weeds, is afforded when an unethical attorney and a code-violating physician, having mutual understanding to secure professional work for themselves, directly or indirectly approach citizens who have met with accidents. As "cappers" or "steerers," the two professional representatives often aid and abet one another in their efforts, and encourage the accident victims to file suits for damages, on the ground of real or exaggerated disabilities.

It is interesting to note that the organized legal profession of California recognizes the menace to the ethics of the profession of law that comes into play when "ambulance chasers" are operating, and that recently steps have been taken to investigate and penalize members of its profession who are guilty of such practice.

* * *

Action of the California State Bar Association.—The following article, from the Los Angeles *Herald-Express* of September 5, sheds further light upon what is being done by the California State Bar Association. The action of the State Bar Association has the approval of organized medicine, as represented by the California Medical Association and its component county society units:

> CALIFORNIA BAR WARS ON "AMBULANCE CHASERS"
>
> A state-wide "clean-up" of the ranks of attorneys was under way today, under the leadership of the State Bar Association, and following the admonition given to lawyers at the recent convention here of the American Bar Association to "clean their own house."
>
> First result was the arrest of an alleged "ambulance chaser," and it was indicated that elimination of ambulance chasing would be the first objective of the drive.
>
> Ambulance chasing is the practice of soliciting lawsuits from victims of accidents.
>
> Investigators for the State Bar Association will speed to the scene of every accident, it was reported, to catch the ambulance chasers in the act of soliciting business. When this is impractical, the investigators will interview accident victims to see if they have been solicited by ambulance chasers on behalf of lawyer-employers, and in such cases will endeavor to prosecute.
>
> Attorney Philbrick McCoy is handling the campaign for the Bar Association, and coöperation is being extended by the city prosecutor's office through Prosecutor Newton Kendall and Deputies J. W. Joos and John Concannon.

Other State Association and Component County Society News.—Additional news concerning the activities and work of the California Medical Association and its component county medical societies is printed in this issue, commencing on page 301.

EDITORIAL COMMENT[†]

CORTIN IN GLAUCOMA

In the July 19, 1935 issue of *Science*,[1] an article appeared from the pen of E. M. Josephson, M. D., of New York City in which he described the successful treatment of chronic simple glaucoma with cortin, an extract from the cortex of the suprarenal gland. A résumé of this article appeared shortly afterward in *Time*, and I believe there has been some mention of the article in the newspapers. I presume all oculists who saw any of these articles shared my mingled feelings of interest and skepticism. I immediately wrote to Doctor Josephson for more details about the treatment, and while I did not receive a personal reply, I did receive a one-page reprint from the *Eye, Ear, Nose and Throat Monthly* of January, 1935, in which he described the successful treatment of one case of chronic simple glaucoma with the substance. No details of the method of administration or dosage were given.

At about the time the articles in the lay press appeared, I had under my care an Italian woman of thirty-five, who had been referred to me by Dr. Sterling Bunnell. She had had a severe tonsillitis and sinusitis, which were followed by a bilateral iritis complicated by secondary glaucoma.

Examination of the nose and throat by Dr. Harold Fletcher revealed hypertrophied and inflamed tonsils. Both antra contained pus, but the other nasal accessory sinuses were apparently not much involved or had cleared up. Repeated lavage of the antra did little to relieve the eye condition. One pupil had previously been dilated with atropin; the other had not. The intraocular tension in both eyes varied between 50 and 60 on the Mc-

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[†] This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentations should be over five hundred words in length.

[1] *Science*, vol. 82, p. 62.

Lean tenometer. The irides were violently inflamed; the anterior chambers were full of floating cells and a fibrinous exudate. A deep keratitis began at one side of the right cornea and had gradually extended into part of the pupillary area. The vision in both eyes was limited to the perception of hand movements at a distance of a few feet. The general physical examination, the urine and blood Wassermann were negative. The blood count was not remarkable.

The youth of the patient, the presence of the recent violent inflammatory reaction in the immediate neighborhood of the eyes, and close contact with an extensive case of impetigo in the same family, made me very hesitant to undertake any operative procedure.

One dose of suprarenin bitartrate was administered to both eyes. This resulted in the elevation of the intraocular tension in both eyes and a fairly wide dilatation of both pupils, and in greatly increasing the discomfort and apprehension of the patient. The day after the administration of the suprarenin bitartrate, Doctor Josephson's reprint arrived. I found that the substance was available under the name of Eschatin (Parke, Davis & Company): and after a consultation with Dr. Chauncey Leake, professor of pharmacology at the University of California, and Dr. Garnet Cheney, who had used the substance extensively in the treatment of Addison's disease, I decided to use it intravenously. One cubic centimeter was administered intravenously on August 28, 1935. Immediately before administration the tension was 60 in the right eye and 55 in the left by the McLean tenometer. Before the needle was withdrawn from the vein, the patient sat up and remarked that she saw better. I ascribed this to the Italian temperament; but in thirty-five minutes I again took the tension with the tenometer and could hardly believe my eyes when both eyes registered 45, McLean. The substance has been administered intravenously in doses of 1 cubic centimeter daily since, each time with a marked drop in the tension and a corresponding improvement in vision.

As soon as it was considered safe, her hypertrophied, infected tonsils were removed, and she has since shown slow but steady improvement. The cortin has tided her over the acute stage and saved her eyes from surgical operation, which at best is not very satisfactory in this type of case.

This experience leads me to believe that cortin has a very definite place in the treatment of glaucoma. It is, of course, probable that the more frequent administration would be advantageous. It would be interesting to investigate the possibility that the occasional beneficial effect of epinephrin in glaucoma may be due to an admixture of cortin, and to determine if instillation in the conjunctival sac is effective.

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NARCOSIS AND OXIDATIVE MECHANISMS OF THE BRAIN

In 1930 V. E. Henderson suggested, in *Physiological Reviews,* that the evidence then at hand was inadequate to support any theory linking narcosis with inhibition of normal oxidative processes in the brain. Despite the abundant and painstaking subsequent biochemical work by Holmes, Bülow, Ashford, Dixon, Peters, Rydin, Quastel and Wheatley, and others in England, and Wortis, Fenn, Gross and Pierce and others in this country, the ultimate solution of this pharmacologic problem has not been greatly clarified.

The case for a direct relation of narcosis and brain oxidations is based on this triad: (*a*) *certain* narcotic agents, as the barbiturates,[1] act on isolated surviving brain tissue to inhibit the oxidative enzyme system dealing with glucose, lactic and pyruvic acids in about the same concentration as is presumably present in very deep narcosis; also, after deep chloroform anesthesia,[1] but not morphin narcosis,[2] the surviving brain from animals so treated shows a perceptible decrease of respiration; (*b*) in a homologous series of narcotics, again taking the barbiturates as the best example, the degree of inhibition of oxygen consumption of surviving brain varies directly with the narcotic potency; and (*c*) the success of treating chronic depressive states in the insane by means of long-continued narcosis.

Failure to explain other experimental findings, however, detracts seriously from the acceptability of any theory relating brain oxidative rates and narcosis. These may be summarized as: (*a*) concentrations of drugs active on the carbohydrate oxidation system *in vitro* are in many cases far beyond those producing narcosis in the intact animal; (*b*) satisfactory evidence of segregation of drug in the brain *in vivo,*[3] or of enhanced susceptibility of anatomically discrete centers to inhibition of glucose metabolism has been lacking, although it is imperative that such a condition exist if the lack of activity of narcotics on whole minced-brain tissue is to be reconciled with their narcotic activity through depressing oxygen consumption; (*c*) active agents of types other than narcotics produce reversible changes in the oxidative rate of surviving brain tissue closely resembling [4] those brought about by narcotics even though of the amins so acting,[4] phenylethylamin and others may function in the lightly narcotized intact animal as cerebral excitants; (*d*) observations made on inhibitions of extra uptake of oxygen by treated autoxidized brain to which glucose is added may pertinently be objected to, since the oxidative processes in brain tissue have been shown through use of the catatorulin [5] effect to be mediated by chain reactions; (*e*) passive or narcotized nervous tissue consumes considerable oxygen simply to maintain itself, and the increase during activity is slight as compared to muscular tissue; (*f*) it is questionable whether the same mechanisms of oxidation function in surviving brain as in the intact animal;[6] and (*g*) the study of tissue *in vitro* yields a partial picture only, in any case, since general humoral effects are absent.

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[1] Quastel, J. H., and Wheatley, A. H. M.: Proc. Royal Soc., B, 112, 1932.

[2] Gross, E. G., and Pierce, I. H.: Jour. Pharmacol. Exper. Therap., 53,156, 1935.

[3] Koppanyi, T., and Dille, J. M.: Jour. Pharmacol. Exper. Therap., 54:84, 1935.

[4] Quastel, J. H., and Wheatley, A. H. M.: Biochem. J., 27:1609, 1933; 28:1521, 1934.

[5] Peters, R. A., Rydin, H., and Thompson, R. H. S.: Biochem. J., 29:53, 1935.

Thus, while isolated tissue work on surviving brain is yielding much sound biochemical information, as to oxidative mechanisms present, the effects of agents such as potassium, phosphate, or vitamin B, and the availability of different substrates, the difficulties of obtaining significant pharmacologic data are such that perhaps little real progress can be made for some time. Meanwhile, such studies as those of Meyer and his coworker[7] point out interesting relationships between physical properties of agents and their narcotic potency, suggesting an explanation of narcosis which may be less mysterious than the postulated selective inhibitory action of narcotics on the lactic dehydrogenase of certain ill-defined centers.

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AUTOCYTOTOXIC "ANTIBODIES?"

Among the speculative immunologic theories of current interest, none is of wider clinical application than the tentative hypothesis that certain progressive degenerative diseases of highly specialized parenchymatous tissues are due to an auto-immunologic, or auto-allergic vicious circle. This theory assumes that, as a result of an initial toxic or infectious injury, certain highly specialized organ-specific tissues colloids are so denatured as to render them specifically antigenic for their animal of origin. The resultant antiorgan-specific immunity may conceivably be due to "antibodies" specifically cytotoxic for normal homologous tissues. These autocytotoxins may conceivably be formed in sufficient amounts to cause perversion or suppression of homologous tissue function, with ultimate atrophy or degeneration.

This futuristic theory is an apparently logical deduction from the rapidly increasing number of organ-specific proteins, lipoids, and carbohydrates now recognized in animal tissues. Some of these specific organic products are known to require but slight chemical or physicochemical alteration to render them specifically antigenic for the same animal species.

Hektoen and Schulhof,[1] for example, found that the organ-specific proteins of the crystalline lens of the rabbit eye are not demonstrably antigenic for rabbits, causing the production of no demonstrable antilens precipitins. Burkey, Woods, and Woodhall,[2] however, found that normal rabbit lens proteins can be separated into three crystalline factors, one of which is highly antigenic for rabbits, if freed from the "inhibiting" action of the other two factors. The "fractional antibodies" thus formed may presumably reach a sufficiently high titer in actively immunized rabbits to cause autocytotoxic cataract.

One would suspect from this finding that certain local bacterial infections might so denature the organ-specific factors in the liver, kidney, thyroid gland, and central nervous system, for example, as to set up a similar immunochemical vicious circle, leading to progressive degenerative lesions of these organs. The latest apparent confirmations of this fear are the production, by Doctors Rivers and Schwenther[3] of the Rockefeller Institute, of progressive degenerative lesions of the central nervous system as a result of heterophile antibrain immunization.

Doctors Rivers and Schwenther gave eight monkeys repeated intramuscular injections with normal rabbit brain emulsions alternated with normal rabbit brain lipoids. Brain lipoids are known to be organic-specific haptenes, which are rendered auto-antigenic by adsorption on an appropriate colloidal "carrier." After forty or more injections with these heterophile brain antigens, seven of Doctor Rivers' actively immunized monkeys began to show signs of ataxia. The ataxia became progressively worse and in certain cases ended in definite paralysis. Histologic study showed marked degenerative lesions of these ataxic or paralytic monkey brains, accompanied by extensive local demyelinization.

The New York investigators, however, very carefully avoid a definite conclusion as to the probable immunochemical mechanism involved in this experimental encephalomyelitis. They did rule out, however, the possibility that the encephalomyelitis is due to an intercurrent infection. No bacteria were demonstrable in the degenerated brains, nor were they demonstrably infectious on intracerebral injections into normal monkeys, rabbits, guinea-pigs, or mice. The possibility that the encephalomyelitis might be due to an environmental virus, nonpathogenic for normal animals, but pathogenic for animals subjected to the repeated toxic injury incident to heterophile immunization, has not yet been tested.

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Sickness is very wasteful of time and money, as well as a disagreeable and alarming experience. It cuts off income and increases expenses. It threatens all that we hold most worth while—our ambitions, careers, usefulness to the community; our homes, friends, and families. It is the greatest obstacle to a serene, happy, contented, useful life. — Franklin D. Roosevelt.

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ORIGINAL ARTICLES

PSITTACOSIS

WITH REPORT OF TWO CASES

By Arthur Bruce Steele, M.D.
Santa Barbara

Discussion *by Karl F. Meyer, San Francisco.*

The diagnosis of obscure fevers has been facilitated by a better understanding of the symptomatology and pathology of disease caused by certain incitants. The closer coöperation between clinician, clinical pathologic laboratory and, at times, the State Public Health Service, has made for efficiency. The common diagnosis of influenza with or without bronchopneumonia has served to screen more careful investigation of probable etiologic factors.

The following two cases of psittacosis (with recovery) are presented to demonstrate the ease with which the etiology of this obscure fever may readily be confused and mistaken.

REPORT OF CASES

Case 1.—C. T. C. (65). American pet-shop dealer in Santa Barbara.

Family History.—Wife, age 62, shares the duties of the pet-shop. One daughter, married, is in good health.

Past History.—The patient has always enjoyed very good health, having had no serious illnesses nor operations. A mild bronchitic cough for many years, nocturia two or three times, and moderate overweight have been present.

Occupation.—The patient has been a dealer in birds for twenty-eight years, having been in Chicago prior to coming to Santa Barbara in 1912. He has been in contact with imported birds from South American ports as well as the Orient during many years of his life, and has related numerous instances of nursing sick birds, parrots, and parrakeets coming in shipments to his shop. Never, however, has he had symptoms of illness comparable to those experienced at the present time.

Present Illness.—About June 14, 1935, generalized aching throughout the body, with malaise and anorexia were experienced. A few days later chills and fever were complained of. Nausea and vomiting followed with a persistent bad taste in the mouth. After June 17 there was a sense of fullness in the pit of the stomach, and no tolerance for food without vomiting was daily present. A dull aching pain in the upper abdomen started about June 20, not entirely relieved by emptying the stomach nor taking soda. A moderate constipation, slight hacking cough with mucopurulent expectoration were present. Restlessness, anxiety, and prostration were apparent.

Physical Examination—June 22, 1935—revealed an elderly male, flushed, with blood-shot eyes, perspiring freely, and complaining of severe pain in the abdomen. The pulse rate was 80 per minute; respirations, 20; temperature, 103 degrees Fahrenheit; and blood pressure, 140/65. The eyes were red, and conjunctivae were injected. Except for marked tenderness in the epigastrium, with moderate abdominal distention, there were no abnormal signs elicited. Careful search for evidence of pulmonary pathology was lacking. All the symptoms and signs were referable to the abdomen.

Laboratory Tests.—June 23, 1935: Blood, 90 per cent hemoglobin; red blood cells, 4,620,000; white blood cells, 6,100; 82 per cent polymorphonuclears; 12 per cent small lymphocytes. June 27: white blood cells, 6,450; 85 per cent polymorphonuclears; 14 per cent small lymphocytes. Urine, specific gravity 1.028; trace of albumen; trace of sugar; trace of diacetic acid. Widal, negative. Agglutination undulant fever, negative. Kahn, negative.

Course of disease and investigation: The acute illness warranted hospitalization, and the patient was admitted to the Saint Francis Hospital, Santa Barbara, June 23, 1935. Gastric lavage relieved the extreme nausea somewhat on admission. Colonic flushes, 10 per cent glucose in normal saline were administered supportively. On June 24 gastro-intestinal series was started. Preliminary fluoroscopy by Dr. Daniel Clark, roentgenologist, St. Francis Hospital, Santa Barbara, revealed an annular shadow in the mid-zone of the left lung. A portion of his report follows.

"There is a roughly circumscribed parenchymal infiltration adjacent to the left hilum and toward the anterior portion of the lung. This infiltration is about two inches in diameter and is fairly homogeneous in character. It shadows out toward the periphery. This infiltration is decidedly atypical. Its shape at first suggests a pulmonary metastasis, but its haziness of outline and the character of the density are more suggestive of an inflammatory process."

The hacking cough which was present at the onset increased in severity, and the sputum, at first mucopurulent, became purulent, at times flecked with blood. A specimen was forwarded on June 27 to Dr. K. F. Meyer, Hooper Foundation, San Francisco, approximately the thirteenth day of the disease. This material was extracted overnight in the refrigerator, centrifuged and the supernatant fluid injected into mice. On the ninth day one of the mice, obviously ill, was sacrificed. Typical lesions of psittacosis were present, and L. C. L. bodies—the causative elementary bodies of the virus—were demonstrated in the liver and spleen; smears thus establishing conclusively the diagnosis.

The patient was transferred to the infectious disease wing of the Santa Barbara County Hospital. The fever subsided by July 9, 1935, and he was released from isolation August 1, 1935, following the report from the Hooper Foundation that the sputum forwarded on July 20 failed to infect mice.

* * *

Case 2.—Mrs. C. T. C. (62). American, housewife, and wife of a pet-shop dealer with whom she shares the duties of the shop in care of pets.

Family History.—Her husband, C. T. C., had been ill since approximately June 14, and she had taken care of the store entirely from June 22 to June 27, when she took to bed, too ill to work.

Past History.—Not important, except that through the past twenty-eight years she also had cared for the birds and animals in the shop and nursed them in illness. She related many instances of sick parrakeets and live birds she had taken care of in shipments from abroad when in Chicago.

Present Illness.—Approximately June 25, she developed chilliness, followed by fever. Weakness, aching through the body, lack of appetite, marked constipation, nausea, pain in the left chest and excruciating headaches early in the morning, marked the course of her illness. In view of the probable diagnosis of disease in her husband, she was admitted to the infectious disease wing of the Santa Barbara County Hospital on July 8, 1935.

Physical Examination.—Physical examination revealed a woman of sixty, flushed and moderately prostrated, complaining of excruciating headache. There were no findings of importance except that her temperature was 102.5 degrees Fahrenheit.

Laboratory Tests.—Blood: Hemoglobin, 90 per cent; red blood cells, 4,110,000; white blood cells, 7,800; 62 per cent polymorphonuclears; 26 per cent small lymphocytes. Urine: Specific gravity, 1.015; acid; trace of albumen; sugar, negative; Kahn, negative. Widal, negative. B. melitensis, negative agglutination.

Course of Disease.—The patient became afebrile on July 14, and was discharged August 1, 1935. At no

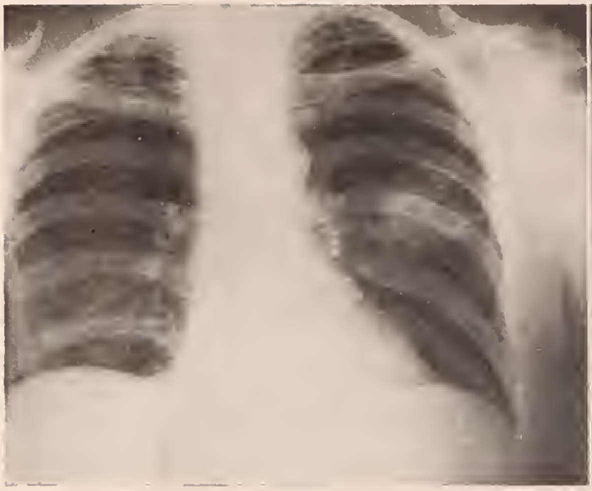

Fig. 1

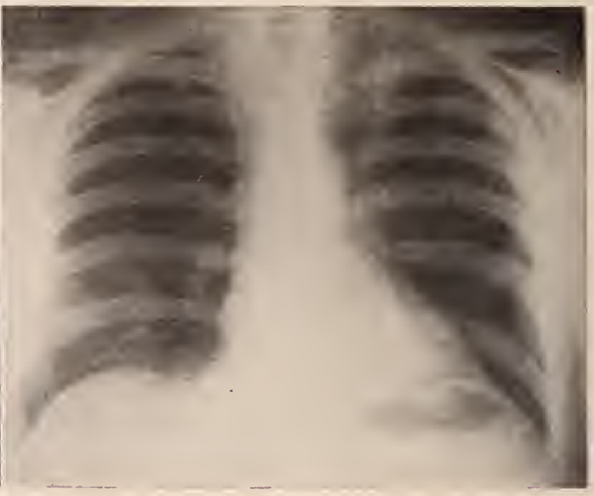

Fig. 2

Fig. 1.—Roentgenogram of lung fields showing annular area of pneumonic consolidation in left lung.

Fig. 2.—Roentgenogram of lung fields nine days later, showing absence of lesion in left lung and presence of similar lesion in lower right lung.

time was there any sputum obtained, although a slight hacking cough was present at times. Nasopharyngeal washings failed to infect mice.

EPIDEMIOLOGY

Epidemiology.—Many birds were present in the store when Mr. C. T. C. became ill June 14, 1935, including thrushes, mocking birds, redbirds, bulbuls, Petz conures, canaries, African love birds, and one Amazon parrot. Only one bird was ill, a Petz conure. This bird had been in the shopkeeper's possession for many months, having come from a dealer in Laredo, Texas. It was a source of pride to the owner that he was able to keep this sickly bird alive so long.

On June 22, Dr. K. F. Meyer of the Hooper Foundation, en route through Santa Barbara, took this bird with him to San Francisco. After exhaustive bacteriologic investigation, the organs of this bird were pronounced free from psittacosis virus.

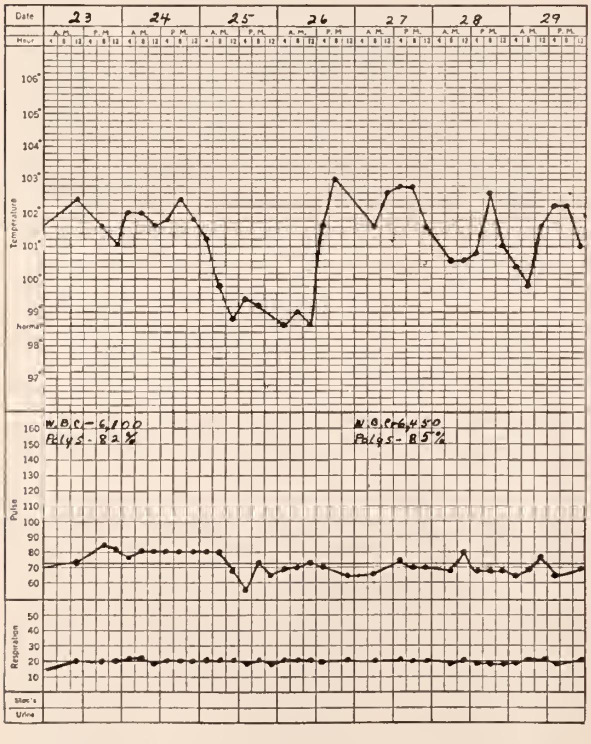

Fig. 3.—Showing fever curve with normal respiration rate and pulse rate curves; mild leukopenia present.

Following this result, scrutiny of the shop drew attention to the Amazon parrot (*Amazona barbadensis* Gmelin) and, while in fair condition, suspicion warranted sacrifice of the bird. Bacteriologically, the organs were sterile, but inoculations of mice with emulsions of the liver, spleen, and kidneys produced lesions of psittacosis in the rodents. The virus readily passaged.

This bird, contrary to earlier statements of the manner of purchase, had been obtained from an itinerant peddler within recent weeks. At the time of purchase the cage from which the bird came contained one dead and two live parrots.

COMMENT

Luckie has summarized the clinical manifestations and important factors in confirming the diagnosis from studies made in this country following the epidemic of 1929-1930. Roth,[1] in discussing Luckie's paper, has outlined the restrictions by the United States Public Health Service placed on imported birds and the quarantine regulations affecting the same. These have become more stringent with each successive outbreak since the Surgeon-General issued his first order on January 25, 1930, affecting parrots entering the United States from a foreign port. It is possible that more careful regulations affecting interstate and intrastate traffic in birds of the psittacine family are required. The repeated warnings of Meyer [2,3] with respect to protective measures have borne fruit, as demonstrated in a recent survey of 164 aviaries by the Department of Public Health in which 55 per cent yielded, by repeated examinations, parrakeets which were free anatomically and by mouse tests of latent psittacosis.

The roentgenologic diagnosis of pulmonary lesions offered the first definite evidence of the nature of the disease. The migrating pneumonic process mentioned by Meyer[3] is beautifully demonstrated by the roentgenograms taken nine days apart. In Figure 2, the lesion in the left lung (Figure 1) had completely disappeared and now an annular shadow is present in the lower right lung field. The pathology of the pulmonary lesions, as well as other organs in man, has been thoroughly described by R. D. Lillie[4] and by Poloyes and Lederer.[5]

The marked febrile state with normal respirations and pulse rate, with mild leukopenia, are shown in Figure 3. The clinical manifestations and the similarity to and the variation from the influenza symptomatology are commented on by M. A. Rabinowitz and S. H. Livingston.[6]

CONCLUSIONS

1. Two cases of psittacosis have been presented from one of which the virus has been demonstrated from the sputum.

2. The symptom complex has been typical of this type of infection, except for the occurrence of severe abdominal pain manifested in Case 1.

3. The epidemiology has been established and traced to an Amazon parrot in the store of the owner (Case 1).

4. The purchase of this bird from an itinerant vendor proved the break in the link of the control of the sale of psittacine birds by the Public Health authority.

5. That more stringent regulations with penalties for the sale of birds that have not been inspected by public health authorities is in order within the confines of the State of California, so that the desired-for goal—no psittacosis in the American bird industry—may be reached.

22A West Micheltorena Street.

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DISCUSSION

Karl F. Meyer (Hooper Foundation, Medical Center, San Francisco).—A memorandum giving a summary of investigations concerning two cases of psittacosis in owners of a pet-shop due to contact with an Amazon parrot [*Amazona barbadensis* (Gmelin) *Sive Amazona ochroptera* (Reichenow)] would be as follows:

May 10, 1935: Mr. J. T. Cr., owner of a pet-shop at Santa Barbara, bought an Amazon parrot (*Amazona barbadensis*) from an itinerant peddler. At the time of the purchase the cage contained one dead and two live parrots. He transferred the Amazon to a backroom at his store, where he had various other birds (thrushes, mocking birds, redbirds, bulbuls, and Petz conures); after June, 1935, he added white canaries and African love birds. The Petz conure was ill and required special attention.

June 21, 1935: Mr. J. T. Cr., who had been ill for a week and felt below par for a month, was attended by Doctor Steele. He complained of fever, chills, general aches, pain, nausea, and vomiting.

June 23, 1935: On account of high temperature (103 degrees, pulse 80) and persistent nausea and vomiting, he was hospitalized. Irrational at times; white blood cells, 4,600; considerable mucopurulent sputum; sharply defined central area of consolidation in left lung.

June 26, 1935: Mrs. J. T., developed similar symptoms and was hospitalized. Nasopharyngeal washings of Mrs. Cr. obtained on July 19, 1935, failed to infect mice with psittacosis (bacteriologic washings contaminated with B. coli and alpha streptococci).

June 27, 1935: Sputum collected from Mr. J. T. Cr. (approximately thirteenth day of disease) infects mice with typical lesions of psittacosis on the ninth day. Bacterial flora mostly staphylococci and alpha streptococci.

June 29, 1935: Sputum collected (fifteenth day of disease) infects mice wih psittacosis lesions.

July 4, 1935: Sputum collected (approximately nineteenth to twentieth day of disease). One mouse of four infected; remainder non-infected.

July 12, 1935: Normal temperature.

July 20, 1935: Sputum fails to infect mice to date.

Comments.—Examination of Petz conure (*Eupsittula canicularis* Linnaeus), killed by the daughter of the owner on June 29, revealed a slight catarrhal inflammation of the intestines. The organs were bacteriologically sterile and were free from psittacosis virus.

The Amazon parrot was chloroformed at the store on July 19, 1935. The autopsy revealed the following:

Immature male, in fair condition; anus slightly soiled; nasal openings dry, but the conchae were injected and moist. The abdominal cavity moist; the spleen enlarged (15 by 13 by 10 millimeters) and soft; the liver enlarged with rounded edges and friable; the kidneys dark and firm; the lung crepitant throughout; the air sacs slightly thickened.

Bacteriologically the organs were sterile, but on inoculation on mice the following results are noted:

Spleen: Mice died on the seventh day (one mouse, one killed) with lesions of psittacosis.

Kidneys: Mice died with lesions of psittacosis; + seventh day (two mice).

Liver: Mice died with lesions of psittacosis; + ninth day (one mouse, one survived, weak virus).

Cloaca content: Non-infectious for mice.

Nasal mucosa: Non-infectious for mice.

Summary and Suggestions.—1. A 65-year-old pet-shop owner and his 62-year-old wife, who have doubtless had in the past contact with infected shell parrakeets, contracted psittacosis through cxposure to an infected Amazon parrot. The clinical course was typical and the virus was demonstrated in the sputum of one patient.

2. The parrot was recently imported. It is not unlikely that the virus was primarily discharged in the urine and thus mixed with droppings at irregular intervals. Bird, at the time of examination, in latent state of infection.

3. The importation of Central American Amazon parrots into California should be prohibited.

* * *

The observations made by Dr. Arthur B. Steele deserve some comment.

1. Contemporaneous publications on psittacosis convey the impression that the apparent immunity of bird breeders and pet-shop owners to psittacosis is particularly evident in those who have had contact with tropical birds for many years. It has been reasoned that continuous exposure to the virus may induce subclinical infections and subsequently permanent immunity. Nobody will deny the reasonableness of these conclusions, since psittasocis in the natural and the experimental hosts (mice, guinea-pigs) has a pro-

nounced tendency to latent infections. Furthermore, epidemiologic observations indicate that, as a rule, the beginners in the parrakeet raising trade contract the disease. In fact, in California, 38 per cent of the reported cases of human psittacosis developed in the owners of large or small parrakeet aviaries or in their families. Why these two pet-shop owners, who had handled sick and diseased birds for many years, failed to acquire complete protection is indeed an intriguing question. By comparison, it is evident that the two patients possessed a certain degree of resistance, since they recovered, irrespective of their ages (sixty-five and sixty-two). Furthermore, it is not unlikely that the resistance against psittacosis is probably not absolute, but is conditioned by factors concerning which very little is known. In fact, it is probable that the striking resistance of many young and middle-aged individuals who may handle infected psittacine birds with impunity is nonspecific. It may be the expression of a hereditary conditioned nonsusceptibility which may gradually diminish with age. The complement fixation tests indicated that Mrs. C., who had a relatively mild infection, elaborated abundant antibodies in her blood serum, while the husband, tested during his convalescence, produced no immune substances. With the aid of these and similar tests, it is anticipated that some of the mooted questions relative to the immunity in psittacosis may be clarified.

2. Epidemiologically the Santa Barbara cases furnished ample evidence concerning the unreliability of testimony collected during the illness of the parties involved. Four independent investigators had been assured that the pet-shop owner, who had voluntarily discontinued the sale of parrakeets in 1932, had not purchased any tropical birds in recent months. Since he had nursed for several months a supposedly sick Petz conure, suspicion was directed to this bird and in a spell of hysteria the daughter killed the bird without affording the investigators an opportunity to study the clinical symptoms. Since this conure was found to be free from psittacosis, both anatomically and by animal tests, the pet-shop owner, who by that time had recovered, was interviewed again. He then admitted the purchase of the Amazon parrot from an itinerant peddler on May 10, 1935. At the time of the purchase the cage of the peddler housed two live and one dead parrot. Notwithstanding this fact the purchase was made. On June 20 (five weeks later) the patient, who had been ill for a week, consulted his physician.

3. Investigations by no means completed failed to establish the origin of the Amazon parrot and the source of the infection. It is not unlikely that the bird entered the country illegally.

4. At the time the Amazon parrot was autopsied (July 19, 1935, eight weeks after the onset of the illness) the cloacal content and the nasal mucosa proved to be noninfectious. However, comparative tests indicated a striking concentration of the virus in the kidneys. This and similar observations made on other birds strongly support the belief that the virus leaves the bodies of the birds through contamination of the cloacal content with highly infectious urine.

* * *

Report of Case (Reference to Illness of Doctor Hasseltine, United States Public Health Service).—In addition to the above discussion of Doctor Steele's report of cases, another case of infection of special interest to Californians is reprinted from the *Journal of the American Medical Association* (issue of August 31, 1935, page 727).

Owing to lack of funds, the State Board of Health found it necessary to close the psittacosis laboratory in Pasadena. The United States Public Health Service had detailed Doctor Hasseltine to coöperate in the State investigations. The item referring to his illness from psittacosis follows:

DOCTOR HASSELTINE ILL WITH PSITTACOSIS FOR SECOND TIME

Dr. Hermon E. Hasseltine, United States Public Health Service, is ill in San Francisco with psittacosis. This is the second time that Doctor Hasseltine has had the disease, the first attack having occurred in 1930 in Washington, where he was making laboratory studies of the epidemic that then prevailed. For three years Doctor Hasseltine was in charge of the psittacosis laboratory of the public health service at Pasadena, which was closed several months ago. He was then detailed to San Francisco to make a study of bubonic plague. While he has not been in contact with parrots recently, it is believed he acquired the infection in Pasadena, July 10, from instruments used in previous studies, which he handled while packing them for shipment. He became ill July 25 and on July 28 was admitted to the marine hospital. He is now much improved. So far as the public health service is informed, this is the only instance of psittacosis occurring a second time of which there is record. In March, 1930, Doctor Hasseltine suffered a moderately severe infection with psittacosis apparently acquired at the National Institute of Health, although definite history of his contact with infected birds could not be traced. His illness occurred at the time that ten other persons connected with the institution were infected. Two of this group were in direct contact with infected birds, but the means of transmission of the disease was not determined in the other cases. Doctor Hasseltine has been with the public health service for twenty-six years.

PSITTACOSIS IN AUSTRALIA

By K. F. Meyer
San Francisco

QUITE recently Dr. F. M. Burnet kindly sent a summary of his detailed studies on psittacosis established in the Australian parrots. In a previous publication (*The Medical Journal of Australia*, December 8, 1934, p. 743) he conclusively demonstrated that the red-backed parrots (Psephotus

Table 1.—*Psittacosis in Australian Parrots*

Genus and Species	Proved Psittacosis	Enlarged Spleen without virus	Normal Spleen	Total
Lorikeets (Trichoglossus)	7 (58%)	2 (17%)	3 (25%)	12
Cockatoos (Kakatoe)	3 (6%)	10 (21%)	34 (72%)	47
Cockatiel (Leptolophus)	6 (60%)	0	4 (40%)	10
Rosellas (Platycercus)	5 (5%)	19 (18%)	84 (78%)	108
Grass Parrakeet (Psephotus)	28 (41%)	0	40 (59%)	68
Budgerigar (Melopsittacus)	1 (5%)	1 (5%)	19 (90%)	21
Grand total	50 (18.2%)	32 (12%)	184 (70%)	266

haemotonotus), rosellas (Platycercus eximius) and cockatiels (Leptolophus hollandicus), with enlarged spleens (8 to 10 millimeters in diameter), were infected with the virus. Ten of twelve grass parrakeets purchased from a Melbourne dealer were carriers of psittacosis. Another paper on "Enzoötic Psittacosis in Wild Australian Parrots" will appear in the *Journal of Hygiene*, but Doctor Burnet has given permission to use the data sent to me. For the sake of brevity, the essential facts are condensed in Table 1.

A very high proportion of the lorikeets, cockatiels, and grass parrakeets are, obviously, infected in the wild state. The virus strains which have been isolated appear to be less virulent than the strains obtained from, and responsible for the human cases in the European and American outbreaks of 1929-1930. However, despite the prevalence of the virus, only three instances in which human infections might be suspected have come to the attention of the authorities. The investigations are still in progress.

Hooper Foundation.

ROENTGENOLOGIC EXAMINATION OF THE STOMACH AND DUODENUM—SELECTION OF PATIENTS*

By B. R. Kirklin, M.D.
Rochester, Minnesota

AMONG the difficult decisions often required of the clinician is that of determining whether or not certain patients should be subjected to roentgenologic examination of the digestive tract. It is to be hoped that the day will come when this test will be applied in every instance in which it might by any chance afford diagnostic aid; but by reason of economic and other considerations its employment as a routine is now seldom practicable.

TENDENCIES IN PRESENT METHODS OF EXAMINATION

Under present conditions, the tendency is to request this method of investigation only when symptoms and signs of disease are pronounced and more or less diagnostic. In such cases roentgenologic study is solicited to furnish objective confirmation of the clinical opinion, and to show the exact site, extent, and hidden complications of the lesion. Unfortunately this plan does not provide for patients whose complaints are vague, trivial, or atypical, but who, nevertheless, have organic disease, sometimes of grave character. This is especially true of early gastric carcinoma which, unless obstructive, often gives rise to such slight clinical manifestations that existence of the disease is not likely to be considered, and unless roentgenologic aid is invited the lesion will probably escape discovery until effective treatment is no longer possible.

GASTRIC SYMPTOMS AND GASTRIC LESIONS

Practitioners have learned that gastric symptoms rather seldom imply organic disease of the stomach, and that perhaps nine times in ten such complaints are either purely functional or due to affections elsewhere than in the stomach. Indeed, there is danger that the clinical diagnostician may become so keenly aware of this fact that he will overlook the gastric lesion in the tenth case. At all events, he will find it well worth while to insist on roentgenologic examination whenever the clinical data are potentially significant of organic disease in the digestive tract, even though the symptoms and signs are single, petty, anomalous, or illogically associated, if they are persistent or recurrent, and if their cause has not been found. Among such manifestations are anemia, loss of weight, nausea and vomiting, hemorrhage, epigastric pain related to food, and a varied assortment of slight or eccentric abdominal symptoms that seem to have no logical basis. I shall present a few cases that illustrate the advisability of regarding those manifestations as signals for examination with roentgen rays. It will be understood that I am not a clinician, that the cases were taken from the files of the roentgenologic section, and that the reasons which impelled the clinical consultant to request the examination were not learned until after it had been made.

ANEMIA AS A GASTRIC SYMPTOM

Anemia without other patent manifestations has such a varied genesis that to determine the cause in a specific instance may require extensive search. Although the more common sources should be considered first, time is often lost in canvassing them repeatedly and ignoring the less common causes. Among the latter, primarily benign polypoid neoplasms of the stomach deserve especial note, for they almost invariably become eroded and anemia results from the steady loss of blood. Usually they are relatively small, and rarely is it possible to discover them without the roentgen rays. Although actual metamorphosis of benign into malignant newgrowths has not been observed, it is known that malignant areas are often found in gastric tumors that are otherwise essentially benign, and that malignant neoplasms may succeed or accompany benign newgrowths. Hence, there is reason to believe that a diagnosis of benign tumor is sometimes equivalent to a diagnosis of early carcinoma. At the clinic every patient having anemia without known cause is sent for roentgenologic examination of the alimentary canal. That this routine is warranted is shown by the following cases:

REPORT OF CASES

Case 1.—Eighteen months before coming to the clinic, a woman, aged fifty-four years, noted increasing pallor and weakness. Several months later she went to her physician, and a roentgenologic examination of the stomach and colon was made, but the results were negative. Her physician prescribed large doses of liver extract and ventriculin, and the patient gained ten pounds (4.5 kg.). When she came to the clinic the value for hemoglobin was 31 per cent and the blood picture was that of pernicious anemia. Roentgenologic examination of the stomach disclosed an

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* From the Section on Roentgenology, The Mayo Clinic, Rochester, Minnesota.

Read before the General Surgery Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

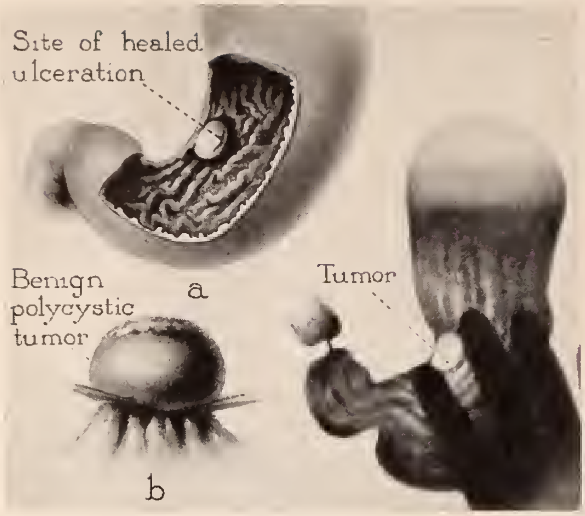

Fig. 1.—Benign polycystic tumor of the stomach; *a* and *b*, specimen; *c*, roentgenoscopic appearance.

apparently benign sessile tumor, four centimeters in diameter, on the lesser curvature, and posterior wall of the stomach adjacent to the angle (Fig. 1*c*). At operation the tumor was excised, and on examination by the pathologist proved to be a polycystic adenoma (Figs. 1*a* and 1*b*).

* * *

Case 2.—A man, aged thirty-six years, had been in good health until nine months before he came to the clinic. At that time, because of pallor, weakness, and loss of weight, he consulted his physician, who made a diagnosis of anemia and treated him for it. For two or three months his condition improved and he felt fairly well. He had no gastric symptoms, but was extremely constipated and had colicky pains in the lower portion of the abdomen. When he appeared at the clinic the value for hemoglobin was 42 per cent, a mass was palpable on the rectal shelf, and carcinoma of the colon was suspected to exist. Roentgenologic examination of the colon was negative, but examination of the stomach and duodenum disclosed obstruction at the outlet of the stomach. It was impossible to rule out a duodenal ulcer with a large crater. On exploration, inoperable carcinoma of the pyloric end of the stomach, with general abdominal carcinosis, was found. A specimen examined by the pathologist proved to be adenocarcinoma, of Grade 4.

LOSS OF WEIGHT

In the past, loss of weight was always regarded as an important sign of potential disease, even when all other evidence was lacking. During recent years, however, esthetic considerations and continued emphasis on the hazards of being overweight have led many men and women to reduce their weight by restricting their diet, and there are so many physiologic causes of thinness that loss of weight is less likely to receive the attention it deserves. When it is the principal manifestation apparent, the first thought usually is of pulmonary tuberculosis, and in his devotion to this angle of investigation the clinician may forget that cancer of the stomach or colon may be heralded solely by this sign. Accordingly, at the clinic, roentgenologic examination of the digestive tract is prescribed as a routine in every instance in which an adequate explanation for loss of weight has not been found.

Case 3.—Loss of weight was the chief complaint of a woman seventy years of age. She had lost 24 pounds (10.9 kg.) within three months. For about three years, two or three times a week, she had had attacks of right subcostal pain, together with belching, mostly after the evening meal. The total gastric acidity was 54; free acids, 32. At examination with roentgen rays, a small ulcerating carcinoma was found on the posterior wall, near the lesser curvature at the angle of the stomach, and also a duodenal ulcer (Fig. 2). The carcinoma, together with about four-fifths of the stomach, was resected. The growth, which measured 4 by 3 by 2 centimeters, pathologically proved to be an adenocarcinoma, of Grade 4, and the lymph nodes were involved.

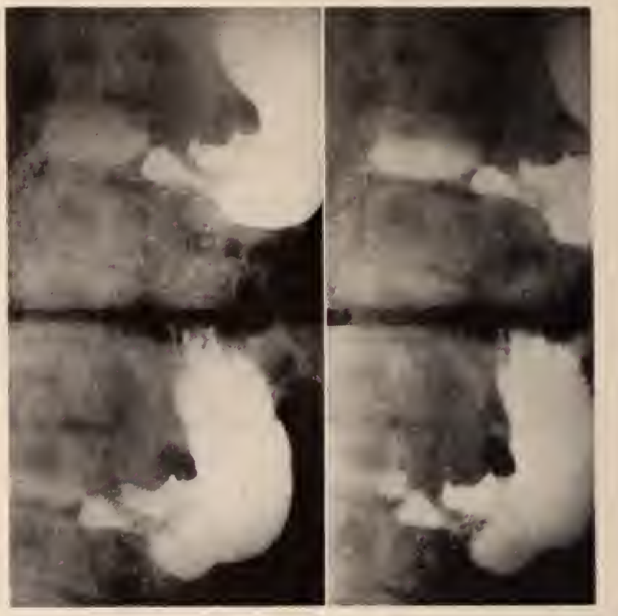

Fig. 2.—Small ulcerating carcinoma on lesser curvature below the angle of the stomach.

* * *

Case 4.—A man, forty-six years of age, had lost 25 pounds (11.3 kg.) in less than two months, and this was his sole complaint. After the roentgenologic report was received, he was again questioned closely, and said that he had had sour stomach with epigastric fullness and gas occasionally during recent weeks. Total gastric acidity was 10, all combined. With roentgen rays an ulcerating carcinoma, causing some obstruction, was discovered at the pyloric end of the stomach (Fig. 3). At operation the growth, an adenocarcinoma, of Grade 3, was found to have perforated to the pancreas.

RECURRING VOMITING

Recurring vomiting, in the absence of acute disease or other obvious causes, is so often a mark of gastric or duodenal lesions that they will almost invariably be taken into consideration, and roentgenologic study is likely to be requested. On the other hand, nausea without vomiting will not usually be regarded seriously, yet it may be the only symptom of a grave affection, as in the following instances:

Case 5.—A physician, aged forty-nine years, came to the clinic for diagnosis and treatment of a cardiac affection. One year previously, he had had a severe attack of thoracic pain which for ten days had required morphin for relief. The diagnosis at that time had been angina pectoris. He had been unable to attend to his duties for about six months, and during this period he had rather persistent nausea, especially noticeable when his stomach was empty. At the clinic the diagnosis of angina pectoris was confirmed; but

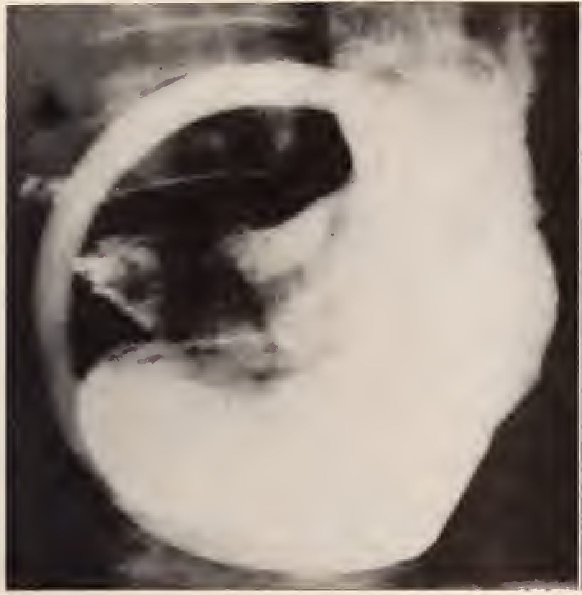

Fig. 3.

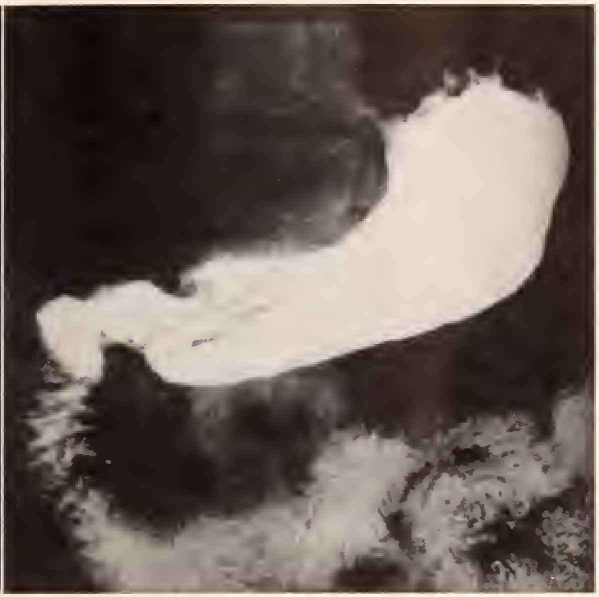

Fig. 4.

Fig. 3.—Large ulcerating carcinoma on lesser curvature near the pylorus, producing obstruction.
Fig. 4.—Small ulcerating malignant lesion on lesser curvature.

because of the nausea, roentgenologic examination of the stomach was ordered. This disclosed a small, ulcerating prepyloric carcinoma (Fig. 4). At operation, it was found that the carcinoma had perforated against the liver. For this reason, and because of the additional risk due to the cardiac affection, resection was not attempted and gastro-enterostomy was performed. The patient recovered from the operation, returned to his home, and resumed his work. He gained in weight, but pain attributable to the angina persisted. Two years later he died of bronchopneumonia. At necropsy, extensive carcinoma of the stomach, with peritoneal metastasis, were found.

* * *

Case 6.—A woman, thirty-three years of age, for two years had had attacks of vomiting without apparent cause. Vomiting came at any time and was preceded by cramp-like pain. At no time was the vomiting indicative of retention. The patient had lost 23 pounds (10.4 kg.). Total gastric acidity was 30, all combined. An ulcerating carcinoma at the pylorus was disclosed with the roentgen rays (Fig. 5), and was resected. It measured 8 by 7 by 2 centimeters, and proved to be an ulcerated adenocolloid carcinoma, of Grade 3.

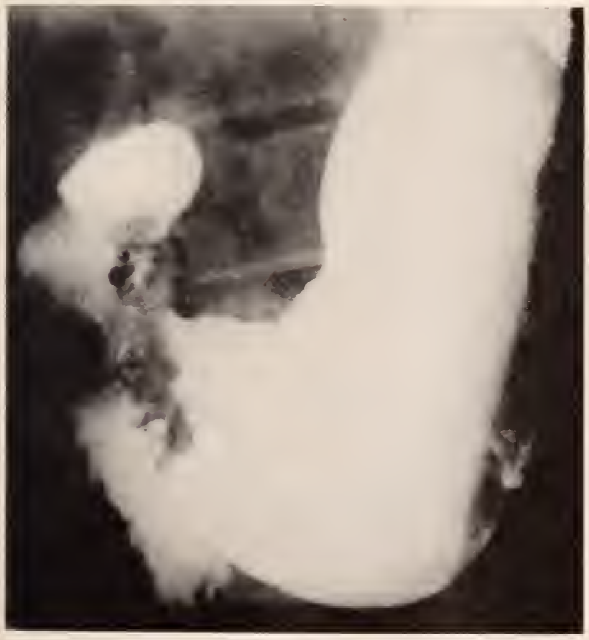

Fig. 5.—Fairly extensive prepyloric carcinoma.

HEMORRHAGE FROM THE ALIMENTARY CANAL

Hemorrhage from the alimentary canal, whether open or occult, is an almost peremptory command

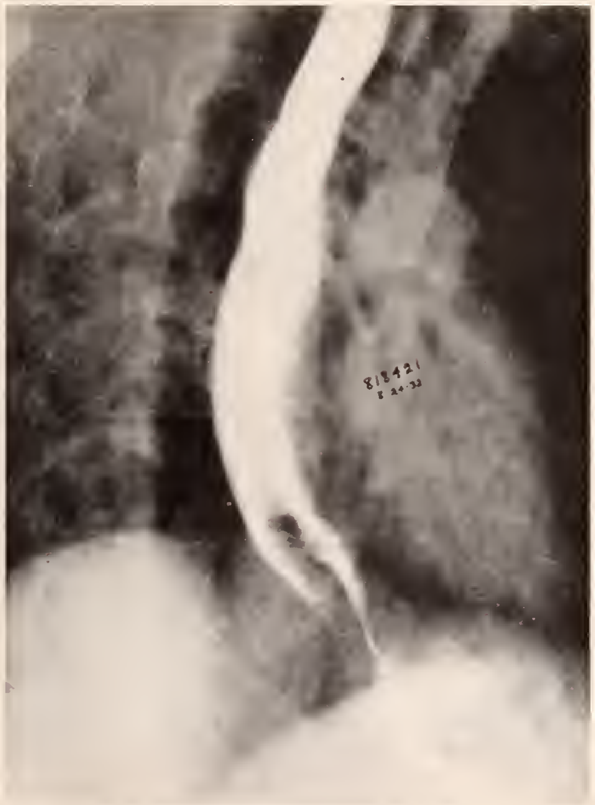

Fig. 6.—Varices in distal half of esophagus.

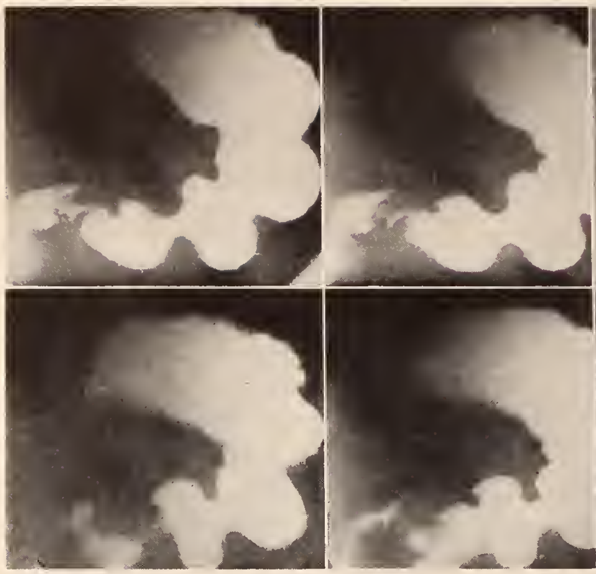

Fig. 7.

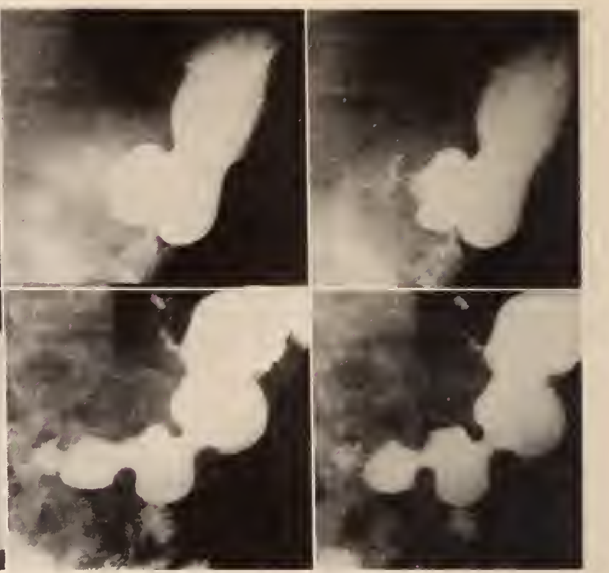

Fig. 8.

Fig. 7.—Hypertrophy of the pyloric muscle, showing characteristic crevice at middle of elongated pyloric canal and indentation of bulbar base.

Fig. 8.—Duodenitis; the typical mottling of mucosal relief of the bulb may be noted.

for roentgenologic inquiry. The more common sources of bleeding, aside from hemorrhoids, are peptic ulcer and ulcerating carcinoma, but it may also result from esophageal varices or benign new growths of the stomach or bowel, and exact determination of the cause is not often possible without roentgenologic examination.

Case 7.—Three months before coming to the clinic, and again on the day before he came, a physician, aged fifty-two years, had had a series of tarry stools. Although he had had no gastric symptoms, a roentgenologic diagnosis of duodenal ulcer had been made and he had been on an ulcer diet since then. Clinical examination revealed hepatic cirrhosis with splenomegaly and anemia. Roentgenologic examination disclosed extensive varices in the distal half of the esophagus (Fig. 6). The diagnosis was confirmed by esophagoscopy.

* * *

Case 8.—About seven months before registering at the clinic, a woman, seventy-four years old, had become nauseated, vomited blood, and fainted. Diagnosis of bleeding ulcer of the stomach and phlebitis of the left leg had been made, and she had been in a hospital for eight weeks. Clinical examination with

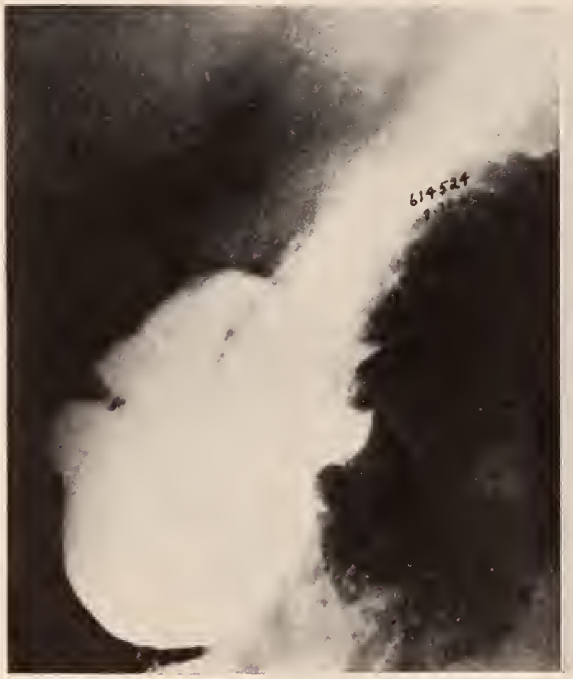

Fig. 9.

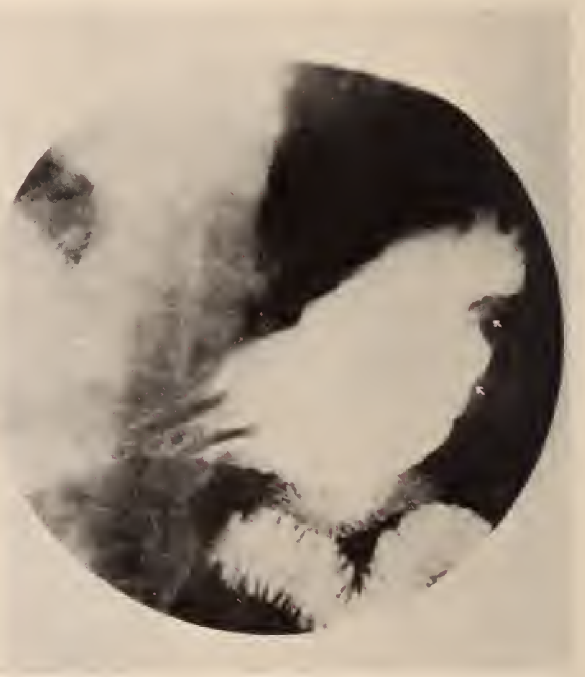

Fig. 10.

Fig. 9.—Large malignant ulcer on greater curvature; healed duodenal ulcer.

Fig. 10.—Ulcerating malignant lesion high on greater curvature.

respect to the hematemesis was essentially negative. By roentgenologic examination a probably benign, polypoid tumor on the posterior wall of the cardia was found. In view of the patient's age and her present residence in Rochester, further developments will be awaited before operation is attempted.

EPIGASTRIC PAIN

Epigastric pain or distress definitely related to taking food is so often indicative of peptic ulcer or cholecystic disease that it will be given due heed, and roentgenologic aid will be demanded. But often the discomfort is atypical, and the existence of an organic affection of the stomach or duodenum seems so improbable that employment of roentgen rays is likely to be rejected, although it may be the most facile method of solving the problem.

Case 9.—For two years a woman, fifty-five years old, had had epigastric distress, which came on about fifteen minutes after meals. The clinical history with relation to this distress was otherwise negative. Roentgenologic examination disclosed a small concentric prepyloric defect, which was believed to be due to hypertrophy of the pyloric muscle. At operation, pyloric hypertrophy was found and removed by pylorectomy, Billroth I. The diagnosis was confirmed by the pathologist.

In this connection it may be noted that a confident roentgenologic diagnosis of pyloric hypertrophy can now be made in most cases. Heretofore, distinction of this affection from early prepyloric carcinoma, gastric syphilis, and prepyloric ulcer with spasm was seldom possible, for the prepyloric deformity was often quite similar in all four conditions. Lately, however, it has been learned that pyloric hypertrophy has two differential characteristics, namely, concave or conical indentation of the bulbar base, and a crevice on either or both borders of the elongated pyloric canal near its middle point (Fig. 7). Both these marks have been shown to have an anatomic basis, and as a rule are lacking in the other diseases mentioned.

Case 10.—Belching and abdominal distention immediately after meals over a period of three months was the principal complaint of a man thirty-four years of age. The total gastric acidity was 80; free acidity, 68. An unqualified roentgenologic diagnosis of diffuse duodenitis was made.

DUODENITIS

Duodenitis is a localized or diffuse inflammation with leukocytic infiltration, edematous thickening, and multiple shallow erosions of the mucosa, but without definite craters. It is sometimes associated with crateriform ulcer, but often occurs independently. The symptoms of duodenitis are similar to those of frank ulcer. Roentgenologically, duodenitis is characterized by extreme irritability and rapidly changing form of the bulb, and by a coarsely-reticular mucosal pattern (Fig. 8).

OTHER VAGUE SYMPTOMS

Most puzzling of all are the slight and indefinite or inconsistent abdominal symptoms described by so many patients. It is true that a large majority of such persons have no discoverable pathologic foundation for their complaints, but in occasional instances, as the clinician is well aware, the symptoms arise from lesions of the stomach or duodenum. To select from the whole group those patients who are more likely to have such lesions is exceedingly difficult, and the clinician is obliged to rely largely on his intuition and individual experience. As a rule, however, the patient will be served best by giving him the benefit of every reasonable doubt and subjecting him to the roentgenologic test if circumstances permit.

Case 11.—A man, aged thirty-eight years, sales-manager for a company manufacturing automobiles, came to the clinic for the annual examination required of executives in his company. His history several years ago had been typical of peptic ulcer, but in recent years he had had only mild, indefinite, intermittent epigastric distress, which had come on when his stomach was empty; this had sometimes been relieved by taking food, sometimes not. He attributed this distress to the necessary drinking of intoxicants in making social and business contacts. Roentgenologic examination disclosed a large, perforated, malignant ulcer on the posterior wall of the stomach, near the greater curvature, and also an ancient duodenal ulcer (Fig. 9). Both diagnoses were confirmed at operation. The pathologist reported that the lesion was an ulcerating carcinoma, which measured 6 by 5 by 2 centimeters, of Grade 3. After four years the patient is still living, and is able to carry on his responsible duties.

Case 12.—A man, aged fifty-four years, executive of an oil company, came for general examination because, as he phrased it, he felt that he was slipping. Seven years previously he had had an aching distress in the epigastrium, which was attributed to colitis by his physician, and which shortly disappeared. Five months previously he noted an aching and sense of distention in the epigastrium, usually before meals and without nausea or vomiting. A roentgenologic diagnosis of a lesion at the pylorus had been made in Mexico. The total gastric acidity was 42; free acidity, 30. Examination with roentgen rays disclosed an ulcerating carcinoma high on the greater curvature of the stomach, and a duodenal ulcer which probably was not active (Fig. 10). In view of the paucity of symptoms, the clinical consultant was doubtful of the roentgenologic diagnosis, and requested reëxamination of the patient. This was carried out and the diagnosis was maintained. At operation, a new growth, 6 by 8 centimeters, on the greater curvature, was removed by resection of the Polya type. Pathologically, the tumor was an ulcerating carcinoma, graded 3 as to malignancy; the lymph nodes were not involved.

IN CONCLUSION

My object has been to emphasize the value of roentgenologic investigation, not merely when there are striking clinical marks of gastric or duodenal disease, but more especially when the symptoms are indecisive, apparently insignificant, or plausibly attributable to disorders unrelated to the digestive tract. This does not imply that the symptoms and signs mentioned are consistently indicative of organic disease, for the contrary is true; and if all patients having such manifestations are sent for roentgenologic study, the clinician must expect a large majority of negative reports. But it is also certain that unless these and other signals for the examination are heeded, many lesions will not be discovered, and it is equally certain that gastroduodenal disease can seldom be excluded definitely without the aid of roentgen rays.

The Mayo Clinic.

UROLOGIC PATHOLOGY*†

ITS INCIDENCE AS FOUND IN ONE THOUSAND CONSECUTIVE AUTOPSIES AT THE LOS ANGELES GENERAL HOSPITAL IN 1933

By George F. Schenck, M.D.
Los Angeles

The purpose of this study of one thousand consecutive autopsies was to determine the incidence of urologic pathology that occurred. An effort will be made to illustrate the comparative importance of the diseases of the genito-urinary tract, and to show their frequent and intimate association with other diseases. The subject presents many and varied circumstances that necessitate the use of graphic illustrations and tables for their presentation. (Charts 1, 2, 3, 4, 5.)

UROLOGICAL DISEASES AND THEIR ETIOLOGY

The ensuing tables will include the urological diseases and the etiological factors that occurred in the kidneys, ureters, bladder neck, urethra, and testicles.

METASTATIC INFECTIONS

In 127 cases of metastatic infections, there were found forty-five acute pyemic kidneys. No kidney infections that had a preëxisting hydronephrosis or pyelonephritis were included unless they involved the opposite kidney. The bacteriology of these hematogenous infections was coccoid in forty-one cases, gas bacillus in two, and coccidioides in two. The coccoid lesions were the result of an acute pyemia or septicemia, and the lesions were miliary cortical abscesses, infarcts, and thrombi. The coccidioides were multiple suppurating abscesses involving the entire parenchyma of the kidney. The gas bacillus infections were massive multiple bacterial infarcts with necrosis. The seriousness of these acute infections is attested to by the existence of acute uremia in 35 per cent of the cases. (Table 1.)

The contributing factors included foci of infection involving the ear, nose and throat, chest, cardiovascular system, abdomen, urological diseases, acute infectious diseases, carcinoma, chronic suppurative foci and diabetes. (Table 2.)

HYDRONEPHROSIS

Hydronephrosis was bilateral in forty-two of the fifty-one cases. There were twenty cases (sixteen bilateral), complicated by infection. The bacteriology of these cases was usually due to organisms belonging to the colon group, but approximately one-third of the cases had mixed (coccoid and colon group) infections. The etiology was urinary obstruction in forty-six cases, neurological three, congenital anomalies two, and undetermined in three cases. The urinary obstruction was caused by every type of urological pathology, other than tuberculosis, that exists. When an obstructing lesion involved both ureters or was

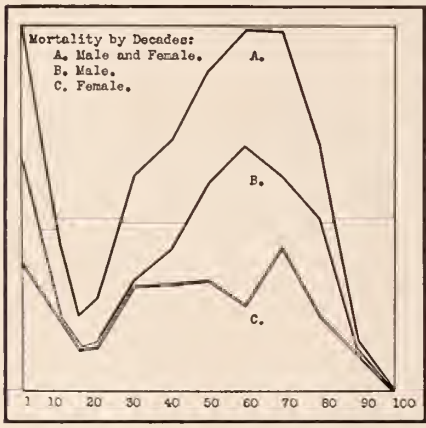

Chart 1

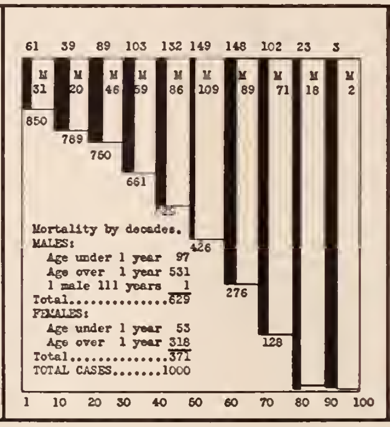

Chart 2

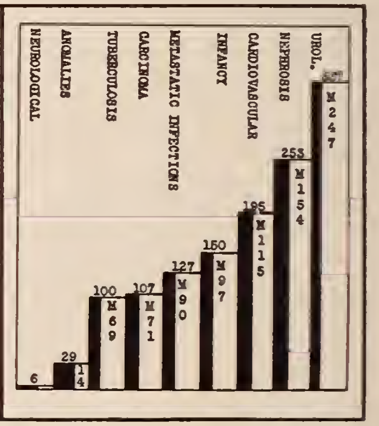

Chart 3

Chart 1.—Line *A* is the general mortality curve for the male and female; *B*, the mortality curve for the male, and *C*, the curve for the female cases reviewed. Including stillborns, there were one hundred and fifty deaths (97 males and 53 females), before the age of one year. The infant mortality exceeds that of any decade subsequent to the age of one year. The peak for the general mortality curve is age 50-60, 149; age 60-70, 148. The male and female curves parallel each other between the ages of ten and thirty-five years, with the all-time low mortality at age fifteen for both sexes. After age 35, there is a rather rapid climb of the male curve that more nearly imitates the ascent of the general curve, with the peak at age 60. On the other hand, the curve for the female has but a slight ascent to age 50, and then there occurs a noticeable decline, in contradistinction to the peak of the male curve. Age 70 is the peak for the female curve.

Chart 2.—Chart 2 represents a graphic illustration of the number that died in each decade as is represented by the figures at the top of the scale, and the figures between the black columns proclaim the number that were males. The figures at the bottom of the column indicate the number remaining at the beginning of that decade. The preponderance of male mortality occurs in every decade, but is particularly disproportionate, ages 40-90 years. The relatively symmetrical progress of the mortality by decades is noteworthy, and suggests that death in a large series of cases is the result of the accumulation of morbid pathological conditions.

Chart 3.—Chart 3 is a graphic tabulation of the principal causes for death that appeared as the anatomical diagnosis. Urology heads the list with 337 cases, followed by nephrosis 253, cardiovascular 195, diseases of infancy 150 (prior to age one year), metastatic infection 127, carcinoma 107, tuberculosis 100. All anomalies and neurological cases, except those that had urological disease, were excluded. Note the marked disproportion between the males and females, especially in urologic diseases (males 247, females 90), nephrosis (males 154, females 99), cardiovascular (males 115, females 80), metastatic infections (males 90, females 30), carcinoma (males 71, females 36), tuberculosis (males 69, females 31).

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* Chairman's address, Urology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

† The author wishes to express his thanks to Dr. Newton G. Evans, his colleagues, associates and assistants for the privilege of using the autopsy reports of the department of pathology for compiling the statistics that appear in this paper.

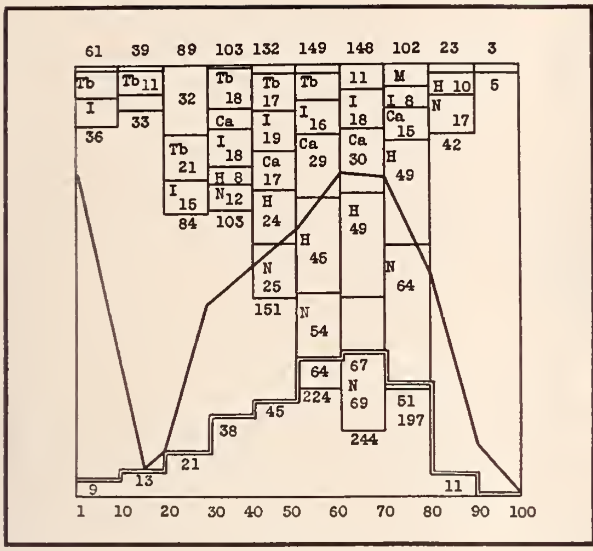

Chart 4

Chart 4.—Chart 4 denotes the mortality by decades at the top of the column, where the major causes for death as found in these autopsies are blocked in with the number that occurred in the corresponding ten-year period. The number below the double line represents the number of urological cases that were found in each decade. The figures at the bottom of each column exhibit the total number of major causes of death as found at autopsy. It is of importance to note that the peak of the mortality curve corresponds to those decades that have the greatest number of major complications, and includes the greatest number of urological cases.

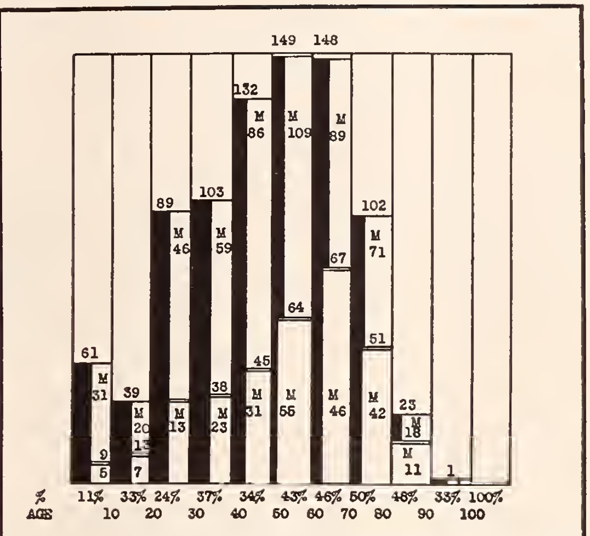

Chart 5

Chart 5.—Chart 5 illustrates the mortality drawn to a scale for all of the major causes of death (including urologic diseases), and focuses attention to the proportion of these cases that had urological pathology. The predominance of the male over the female cases above the double line are exemplified under urology below the double line. The percentage of urological cases is tabulated by decades below the table. Diseases of the genito-urinary tract are unquestionably a strong and important primary and contributing factor in mortality.

infravesicle, there was usually bilateral hydronephrosis. The type of lesion did not materially influence the presence or absence of coexisting infection. (Table 3.)

TABLE 1.—*Metastatic Infections (127 cases)—Acute Kidney (45 cases)*

Acute Pyemia		*Septicemia*	
Miliary abscess kidney	12	Miliary abscess kidney	16
Septic emboli	0	Septic emboli	0
Septic infarct	3	Septic infarct	11
Thrombus	1	Thrombus	2
Total	16	Total	29
Children: 19 days		Males	90
3 months		Females	37
9 months		Average age	41

PYELONEPHRITIS

Pyelonephritis occurred in forty-one cases and was bilateral in twenty-seven. There was marked dilatation of the kidney pelves and ureters in twenty-six, which was bilateral in twenty-one. There were twenty-nine males with an average age of fifty-nine years, and twelve females with an average age of forty-seven. The combined average age was fifty-six.

The principal causes for the occurrence of pyelonephritis were urinary obstruction, plus a preëxisting dilatation of the kidney pelves and ureters which produced a urinary stasis that favored a bacterial invasion. The bacteriology was usually colon infection; when present, the coccoid organisms rarely occurred in pure culture. The

TABLE 2.—*Contributing Factors to Acute Kidney*

Cardiovascular	13	Bacterial endocarditis	6	Hypertension heart	3
Diabetes	3				
Urological pathology	12	Prostate	5	Pyelonephritis	2
				Hydronephrosis	5
Cellulitis	4				
E. N. T.	3				
Chest	8	Lung abscess	1	Pneumonia	6
		Empyema	2		
Abdomen	2				
Acute infectious disease	1				
Carcinoma	3				
Chronic suppurative foci	5	Arthritis	2	Pelvic inflammatory disease	1
				Osteomyelitis	2

TABLE 3.—*Hydronephrosis (51 cases)—Bilateral 42, Unilateral 11*

Obstruction	*Hydronephrosis*	*Infected*	*Remarks*
Pelvic ureter	16 bilateral 12	1 bilateral 1	Metastatic ca. and gyn. Pelvic pathology.
Ureteral kinks	1 bilateral 1		
Postoperative hysterectomy	1 bilateral 1		
Ureteral stone	2		
Kidney stone	2 bilateral 1	1	
Obstetrical	1 bilateral 1	1 bilateral 1	History of nephrosis for life.
Congenital anomalies	2 bilateral 2	1	Abscess op. kidney; dup. kidney and ureter.
Cancer of bladder	4 bilateral 4	1 bilateral 1	
Stricture of ureteral orifice	2 bilateral 2	1 bilateral 1	
Leukoplakia	1 bilateral 1	1 bilateral 1	
Bladder neck pathology	13 bilateral 12	8 bilateral 6	
Neurological	3 bilateral 2	2 bilateral 2	One child one month old.
Undetermined	3 bilateral 3	3 bilateral 3	
Total	51 bilateral 42	20 bilateral 16	

Youngest	10 minutes	Bilateral hydronephrosis	42
Oldest	52 years	Unilateral	11
Average age of males	54 years	Infected	20
Average age of females	50 years	Bilateral	16

obstructive lesions consisted of any type of pathology that interfered with the normal flow of urine from the kidney to the external meatus of the urethra. In five cases the etiology was undetermined. (It is probable that if it had been possible to have made antemortem studies of these patients, ptosis, ureteral kinks and angulations of the ureter would have accounted for these cases.) (Table 4.)

TABLE 4.—*Pyelonephritis (41 cases)—Bilateral 27, Unilateral 14*

Obstruction	*Pyelonephritis*	*Infected Hydronephrosis*	*Hydronephrosis opp. Kidney*
Bladder neck	17 bilateral 15	15 bilateral 12	0
Cord bladder	4 bilateral 3	3 bilateral 3	1
Cancer of bladder	3 bilateral 1	2 bilateral 1	1
Ureteral obstruction with metastatic ca.	4 bilateral 1	1	3
Pregnancy	1 bilateral 1	1 bilateral 1	0
Leukoplakia	1 bilateral 1	1 bilateral 1	0
Fibroid	1 bilateral 1	1 bilateral 1	
Pelvic inflam. dis.	1 bilateral 1	1 bilateral 1	0
Tuberculosis	1	0	0
Stones	2 bilateral 1	0	0
Urethral stricture	1 bilateral 1	1 bilateral 1	0
Undetermined	5 bilateral 1	0	Acute miliary abscess opposite kidney, one case
Total	41 bilateral 27	26 bilateral 21	

Males	29	Females	12
Average age	59	Average age	47
Combined average age	56		

PERINEPHRITIC ABSCESS

Perinephritic abscess occurred in ten cases. The condition was secondary to an infection within the abdominal cavity or a pyelonephritis in all cases. One case of bilateral perinephritic abscess was secondary to a bilateral pyelonephritis caused by a stone in the right kidney pelvis and a left ureteral stricture in the upper third of the ureter at the site of a ureterotomy incision for an impacted ureteral stone (operated three years ago).

There were no cases secondary to furunculosis or skin pyemias. Obviously, cases of this type were detected and operated before a fatal termination. (Table 5.)

TABLE 5.—*Perinephritic Abscess (10 cases)*

1. Two secondary to retrocecal appendix and abscess.
2. One carcinoma of cecum with abscess.
3. Six secondary to kidney pathology; usually pyelonephritis.
4. One bilateral secondary to pyelonephritis.
5. No cases secondary to furunculosis or skin pyemias.

OBSTRUCTIVE UROPATHY

Urinary obstruction is a principal factor in the production of kidney damage, and is evidenced by dilatation of that portion of the urinary tract above the obstructive lesion. The obstruction always creates stasis, which invites, perpetuates and encourages the progress of infection within the urinary tract.

TABLE 6.—*Kidney Damage Caused by Bladder-Neck Obstruction*

Adenoma (84): Youngest, 43; oldest, 111. Average age, 66.
  Large, 23:
  Anatomical evidence of obstruction, 21.
  Kidney damage, 12; pyelonephritis, 8; bilateral, 5.
    hydronephrosis, 3; bilateral, 3.
  Acute miliary cortical abscess, 1 (cardiac).

  Medium, 28:
  Anatomical evidence of obstruction, 7.
  Kidney damage, 4; pyelonephritis, 3; bilateral, 2.
  Thrombosis of renal artery, 1.

  Small, 33:
  Anatomical evidence of obstruction, 6.
  Kidney damage, 0; pyelonephritis, 0; hydronephrosis, 0.
  Bilateral septic infarct, 1 (cardiac).

Carcinoma: (12): Metastasis, 9.
  Anatomical evidence of obstruction, 8.
  Kidney damage, 6; pyelonephritis, 5; bilateral, 5; infarct, 1.
  Metastatic sarcoma, 1.

Contracture (5): Anatomical evidence of obstruction, 6.
  Kidney damage; stone, 1; pyelonephritis, 2; bilateral, 1.
  Diverticulum of bladder, 1.

Tuberculosis (5): No anatomical evidence of obstruction.
  Kidney infection; pyelonephritis, 1; cortical lesion, 1.

Prostatitis: Three prostatitis; no obstruction.

TABLE 7.—*Cord Bladder—Neurological*

Age	*Sex*	*Type*	*Kidney Pathology*		*Bladder*
			Pyelonephritis	*Hydronephrosis*	
Average 56	Male	(6) Tabes	(2) Bilateral 2	1 Bilateral	6 Retention
Average 54	Male	(2) Meningo-vascular	(1) Bilateral 1	0	1 Retention
19	Male	(1) Glioma of cord	(1)	1	1 Incontinence
78	Female	(1) Multiple sclerosis	(0)	0	1 Retention
65	Female	(1) Transverse myelitis	(0)	0	1 Retention
Total		(11)	(4) Bilateral 3	2 Bilateral	9 Retention 1 Incontinence

PROSTATISM

A total of 109 cases of bladder-neck pathology adequately emphasized the importance of prostatism sufficiently to necessitate its consideration in every male patient past the age of forty-five. The various types of lesions found in the bladder neck were, viz.:

ADENOMA OF THE PROSTATE

Adenoma of the prostate, 84; youngest 43, oldest 111; average age, 66. There were 23 large, 28 medium, and 33 small. In all cases that had anatomical evidence of obstruction (trabeculations, cellules, thickened trigone, diverticulum, etc.), regardless of size, there was a high incidence of kidney damage, particularly hydronephrosis and pyelonephritis. The presence of one bilateral acute cortical miliary abscess, one bilateral septic infarct of the kidney, and one thrombosis of the renal artery, extols an added hazard of urological cases, in addition to circulatory disturbances, when complicated by cardiovascular diseases.

TABLE 8.—*Urinary Obstruction Caused by Carcinoma*

Location		*Pyelonephritis*	*Hydronephrosis*	*P.A.*	*Metastatic Carcinoma Obstructing*
Appendix	1	(1)	(0)	0	Pelvic ureter
Cecum	2	(1)	(0)	1	Retrocecal abscess
Colon	1	(1) Bilateral	(0)	0	Bilateral pelvic ureter
Sigmoid	1	Miliary cortical abscess	(0)	0	General sepsis
Rectal	5	(1) Left	(2) Bilateral	0	Bilateral pelvic ureter
Ovary	4	(1)	(2) Bilateral	0	Bilateral pelvic ureter
(Kukenberg)	1	(1)	(1)		Bilateral pelvic ureter
Uterus	1	(0)	(0)	0	P. O. supp. hysterectomy
Cervix	6	(2)	(2)	1	Pelvic ureteral obstruction with all metastasis
(Metastasis)	4				
Bladder	9	(2) Bilateral	(2) Bilateral	1	Tumor obstructing ureter
(secondary)		(1) Bilateral cervix	(1) Bilateral cervix	1	Tumor obstructing ureter
Prostates	12	(6) Bilateral 5 (1 Septic infarct)	(0)		Bladder-neck obstruction
Total	50	(18)	(10)	4	

CARCINOMA OF THE PROSTATE

Carcinoma of the prostate (twelve) attests to its seriousness as an obstructive lesion by the occurrence of nine cases of evidence of obstruction, complicated by six cases of pyelonephritis and one kidney infarct. One case of metastatic sarcoma did not produce urinary obstruction.

BLADDER-NECK CONTRACTURE

All five cases of bladder-neck contracture revealed anatomical evidence of bladder-neck obstruction that resulted in two cases of pyelonephritis, one kidney stone, and one diverticulum of the bladder.

TUBERCULOSIS OF THE PROSTATE

Tuberculosis of the prostate (five) revealed no anatomical evidence of obstruction. One case of tuberculous pyelonephritis was hematogenous in origin.

PROSTATITIS

Three cases of prostatitis; no obstruction. (Table 6.)

TABLE 9.—*Stone in the Kidney or Ureter*

Type		*Location*	*Pyelonephritis*	*Hydronephrosis*	*Remarks*
Staghorn	1	K. P.	(1) Bilateral 1	0	Cystotomy
Multiple	6	K. P.	(4) Bilateral 3	3	Three bladder-neck obstructions
Single	3	K. P.	(1) Bilateral 1	1	One bilateral perinephritic abscess
Ureteral	1	Ureter	(1)	0	One bilateral perinephritic abscess
Total	11		(7) Bilateral 5	4	

Males	7	Youngest	40
Females	4	Oldest	84
Bilateral stone	1	Average age	58

Table 10.—*Anomalies of the Urinary Tract (29 cases)*

Type		*Remarks*
Aberrant blood vessels	2	1 Hydronephrosis and one bilateral with blood vessel obstructing upper ureter
Absence of kidney	2	1 Hydronephrosis of kidney
Congenital cysts	8	8 Bilateral
Duplication of kidney and ureter	2	2 Bilateral
Pelvic kidney	2	
Hypoplasia	3	Bilateral 1, pyelonephritis 2, bilateral 1. Opposite kidney 1 Atresia of ureter 1
Hydronephrosis	2	2 Bilateral 1 ten minutes old 1 one month old
Horseshoe kidney	3	No pathology
Bilateral polycystic	2	1 Bilateral pyelonephritis
Ectopic	1	
Epispadias	1	
Hypospadias	1	

Youngest .... 10 minutes Oldest .... 75 years
Average age .... 54 years

CORD BLADDER—NEUROLOGICAL

Cord bladder was present in eleven cases, and was characterized by retention of urine (nine) and incontinence (one). Hydronephrosis and pyelonephritis were present in four cases. The similarity of the symptoms and pathology to prostatism necessitates a differential diagnosis in all male cases. The condition affects both sexes and has a wide age range. (Table 7.)

Table 11.—*Diverticulum of the Bladder*

		Multiple	Single
Bladder-neck obstruction	8	3	5
Undetermined (female)	1	1	0
Total	9	4	5

Males	8
Females	1
Youngest	51
Oldest	81
Average age	62

Table 12.—*Bladder Retention*

Prostatic obstruction	25
General toxemia	15
Cancer of bladder	2
Meningitis	9
Brain tumor	3
Neurological	7
General sepsis	7
Cerebral hemorrhage	4
Stricture of urethra	1
Total	73

URINARY OBSTRUCTION CAUSED BY CARCINOMA

The principal causes for urinary obstruction by carcinoma outside of the urinary tract are due to metastatic lesions in the deep iliac nodes that impinge on or envelop the pelvic ureter. The relatively frequent occurrence of urinary obstruction with all cases of carcinoma that have metastasized, particularly those with primary origin in the gastro-intestinal tract or the female genital organs, necessitates a constant vigilance for its appearance in all cases involving these organs. Malignant bladder tumors, primary or secondary, usually obstruct the ureteral orifice, or are due to contracture of the intramural portion of the ureter or stenosis subsequent to fulguration. (Table 8.)

Table 13.—*Metastatic Malignancies of the Kidney*

1. Mixed tumor of the parotid, with metastatic lesions involving the cortex of one kidney with both testicles.
2. Squamous cell carcinoma of the esophagus, with bilateral metastatic lesions of the cortex of the kidneys.
3. Myeloma of the femur, with bilateral metastatic involvement of the cortex of the kidneys.
4. Squamous cell carcinoma of the breast, with metastatic involvement of the cortex of one kidney.
5. Adenocarcinoma of the rectum, with bilateral metastatic lesions of the cortex of both kidneys.
6. Embryonic carcinoma of the testicle, with bilateral thrombosis of both renal veins with metastatic tumor.
7. Retroperitoneal sarcoma involving the hilus of both kidneys, but not invading the kidney substance.

Table 14.—*Malignancies of the Testicle*

1. Embryonal carcinoma of the testicle, with metastasis involving the abdominal aorta, vena cava and both renal veins (age 32).
2. Seminoma of the testicle; small and no symptoms (age 84).
3. Bilateral metastatic mixed tumor involving both testicles, and the cortex of one kidney. The primary tumor was in the parotid gland (age 43).

Table 15.—*Tuberculosis of the Genito-Urinary Organs*

Tuberculosis 100. Genito-Urinary 34. Kidneys 29.

Miliary	7	(7) Bilateral 6	1 Opposite kidney tubercular pyelonephritis
Tuberculous	20	(20) Bilateral 11	1 Tubercular prostate
Pyelonephritis	2	(2) Bilateral 0	1 Opposite miliary tuberculosis
Total	29		
Tuberculous prostate	3		1 Bilateral epididymitis and vesiculitis
Tuberculous abscess of prostate	1		
Tuberculous epididymis	2		1 Prostatitis and vesiculitis
Total	34		

STONE IN THE KIDNEY OR URETER

Stone in the kidney or ureter was present in but eleven cases. There were no bladder stones. The damage from the presence of a stone was evidenced by the occurrence of a pyelonephritis or hydronephrosis in seven cases, and the lesions were bilateral in six. The sex consisted of seven males and four females. The youngest was forty years and the oldest, eighty-four. Average age was fifty-eight. Bilateral stone was present in one case. (Table 9.)

ANOMALIES OF THE URINARY TRACT

Anomalies of the urinary tract consisted of a total of twenty-nine cases and all involved the kidneys. Hydronephrosis and pyelonephritis occurred in four cases (bilateral, three), and there was a hydronephrosis of the opposite kidney in one hypoplasia. There were three horseshoe kidneys, viz., one stillborn, one woman (age fifty), and one male (age seventy-four). Apparently, all the horseshoe kidneys were free from pathology and had functioned normally. The youngest living was ten minutes, and the oldest was seventy-four. The average age was fifty-four years. (Table 10.)

STRICTURE OF THE URETHRA

There was one case of impassable stricture of the bulbous urethra. The complications were urinary extravasation, perineal abscess and bilateral infected hydronephrosis. An emergency suprapubic cystotomy and drainage of the perineal abscess was done. The patient died of uremia on the eighth postoperative day.

DIVERTICULUM OF THE BLADDER

There were a total of nine cases of diverticulum of the bladder. This condition is usually associated with bladder-neck pathology or urethral stricture, but may be of congenital origin. Their recognition is important because they are always a source of urinary stasis and infection in all cases that do not empty. (Table 11.)

BLADDER RETENTION

The purpose of calling attention to bladder retention of urine is because of its seriousness, frequent incidence, and the many and varied causes for its occurrence. There was a total of seventy-three cases. Extremes of age were five days and eighty-one years; average age was forty-nine years. (Table 12.)

CARCINOMA OF THE KIDNEY

There was a total of seven cases (male, six; female, one). Strange to state, but true, there were no primary malignancies of the kidney. There were, however, six most unusual metastatic lesions of the kidney, and one involvement of the hilus. (Table 13.)

MALIGNANCIES OF THE TESTICLE

There were two primary and one secondary cases of malignancy of the testicle. (Table 14.)

Hydroceles and similar minor lesions will not be tabulated because they do not affect mortality.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS

In a total of one hundred cases of active tuberculosis, there occurred thirty-four cases of genitourinary infection that included twenty-nine kidneys (twenty-seven acute and two pyelonephritis), three prostates and vesicles and two epididymis. There was but one case of genital tuberculosis that had renal involvement. The acute lesions were of the miliary type, and represented an extension of a similar general condition. The lesions were characteristically bilateral. The two cases of pyelonephritis were unilateral. The youngest was seven months old, and the oldest seventy years; the average age was thirty-four years. There were sixty-nine males and thirty-one females. (Table 15.)

1930 Wilshire Boulevard.

ANESTHESIA IN INFANT SURGERY*

By Mary E. Botsford, M.D.
San Francisco

Discussion *by Alanson Weeks, M.D., and G. D. Delprat, M.D., San Francisco; C. F. Gelston, M.D., San Francisco; Caroline B. Palmer, M.D., San Francisco.*

THE comparative safety of surgical procedures in infants is without doubt lowering the death rate for this class of patients, a result due in part to the advances made in the past few years in the science of anesthesiology. Many necessary operations, which formerly were not done at all or performed without anesthesia because of its presumed danger, are now undertaken confidently under general anesthesia.

ANESTHESIA IN PYLORIC STENOSIS

The most frequent condition necessitating operation in infants under a month old is pyloric stenosis. Stanley Stillman, twenty-six years ago, treated these cases exclusively by gastro-enterostomy and in reporting a series said:

> "Infants, particularly in the first six weeks of their lives, are well able to stand surgical operations and anesthetics, and are as tenacious of life, as far as shock is concerned, as at any other time of their lives, provided certain precautions are observed, and these are that their vitality shall not have been lowered by starvation and their body heat shall not have been lowered by exposure during operation."

To these precautions might be added certain other factors making for safety in these small patients, which are—as light anesthesia as is consistent with the needs of the surgeon and a short duration of the anesthesia.

Ninety-six cases of children under two months, anesthetized without a fatality for operations for the relief of pyloric stenosis, intestinal intussusception, herniae into umbilical cord and cleft lip and palate, bear out this statement. The youngest patient was five hours old and the operation, the surgical reduction of an umbilical hernia of practically all of the small intestines. The surgeon in the case, Alanson Weeks, who first substituted for gastro-enterostomy here the rapid Fredet method, and has performed it one hundred and eleven times, credits the anesthesia with some of its success.

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* Read before the Anesthesiology Section of the California Medical Association, at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

ETHER THE ANESTHETIC OF CHOICE IN YOUNG CHILDREN

In the absence of a definite contraindication, such as respiratory or renal dysfunction, ether is the anesthetic of choice in infants and very young children. No arbitrary age limit can be made for the use of nitrous oxid-oxygen anesthesia, and authorities differ as to its safety in infants. Induction with nitrous oxid may be done at the age of one month. A Fredet operation in a seven weeks' old child, in the presence of a respiratory infection and otitis media, was done under nitrous oxid-oxygen anesthesia with no untoward results.

ANESTHETICS FROM THE CRITERION OF SAFETY

A consideration of the various anesthetic agents, from the criterion of safety, would seem to limit all but ether and nitrous oxid.

Spinal and local anesthetics are contraindicated in young children. Apart from psychic complexes produced by fear, which frequently follow their use, there is the congestion of pharyngeal mucous membrane, the excessive production of tears, mucus and saliva, caused by crying, with overventilation of the lungs and its consequent train of evils —reduction of carbon dioxid, acapnia and apnea. A further danger is the possibility of aspiration of the secretions into the lungs.

Induction in nervous and irritable children may be done with the child in the arms of the nurse as, in addition to the excessive secretion caused by crying, the sobbing respiration frequently persists and necessitates a deeper degree of anesthesia to obtain the proper diaphragmatic immobility.

Tribromethanol is of great value in brain surgery, but as children must be given approximately larger doses than adults, and as it is contraindicated in the presence of liver and kidney pathology, it must be used with caution.

Chloroform, used almost exclusively for infants until the discovery of its deleterious action upon the liver, cardiac depression and postoperative acidosis, has been almost entirely discontinued, not only in children but in adults.

Ethyl chlorid, because of its accumulative effect —after stopping administration the anesthesia continues to deepen for a few minutes—makes it unsafe for operations lasting more than a few minutes.

The best results in the anesthetization of infants and young children depend upon proper induction. The psychic damage of fear is never more pronounced than in these patients. The practice of permitting a child, old enough to be aware of his surroundings, to be brought to the surgery until everything is in readiness for the induction, cannot be too strongly condemned.

Cleft lip and palate operations are frequently done on infants, especially repair of the lip, which is frequently performed in the first twenty-four hours.

Status lymphaticus, so named by Paltauf in 1889, was formerly thought to cause fatalities during anesthesia, by mechanical pressure upon the trachea and veins of the neck, by the enlarged thymus. The theory of Kemp is that status lymphaticus is a dysfunction of the adrenal cortex, which is more likely to occur in the presence of thyroid dysfunction, and that the enlargement of the thymus is secondary to thyroid-adrenal dysfunction.

DIFFERENCE OF ANESTHESIA IN CHILDREN AND ADULTS

The chief point of difference in anesthetizing children and adults is the unstable and irregular respiration of the former. This is recognized as the greatest danger with chloroform, as one delayed and deep inspiration may be sufficient for an overdose.

Stewart, in "Surgical Diseases of Children," says:

> "Perhaps the feebler development of the respiratory as compared with the circulatory systems in children, alters the effects of anesthesia, as compared with adults. Semi-anesthesia is admissible in infants and there seems to be less danger from reflex irritation while in this stage than in adults."

Because of the small tidal volume of a baby's respiration, the open drop method is unsatisfactory; also the temperature of the aspirated air is lowered when the ether is vaporized on a mask. DeForest Willard says:

> "When it is recalled that the surface of the air vesicles is far greater than that of the body's surface, the chilling effect of ether can be well recognized."

The semi-closed method is preferable to the open drop method, as it not only prevents refrigeration but preserves the carbon dioxid necessary to maintain the pH of the blood. Some of the mechanisms which are used for suction and insufflation are regulated rather for the suction requirements than the air delivery, and it is undoubtedly true that aspiration may be caused by too high pressure. As between the motor- and foot-driven insufflation apparatus, the small foot bellows has several points of superiority, such as noiselessness (mostly the motors are loud enough to drown the respiratory sounds), a pressure low enough to merely deliver the vapor into the mouth cavity, which is all that it should do, and the ease of regulating air pressure without withdrawing attention from the patient. The danger of the motor-driven apparatus may be obviated by standardizing the pressure. A proper ratio of the volume of air, not over 20 litres per minute, with a pressure of 30 millimeters of mercury, is sufficient.

The best results are obtained by means of air or oxygen with one of the various types of insufflation apparatus used for oral surgery—the one designed by Caroline Palmer, in which oxygen is used instead of air, as the vehicle for vaporizing the ether, is excellent.

The opportunities of anesthetizing a series of some fifty infants under seven weeks (the majority being between one and four weeks old), for conditions such as pyloroplasties, herniae, abdominal sections, suggested, because of the apparent safety in producing anesthesia in these very young subjects, the possibility of still further reducing the age limit for nitrous oxid and oxygen, which I have, heretofore, held at about eighteen months.

A premature infant, four days old, weighing three and a half pounds, was operated for volvulus; the child was anesthetized with ether and oxygen for thirty minutes, without ill effect and made an uneventful recovery.

A cystoscopy with catheterization of ureters in a six months' infant with a pyelitis offered an opportunity for experimentation with gas, justified by a contraindication for ether. For an hour and twenty minutes, a state of analgesia was maintained, evidenced by sucking movements of the lips on a bit of gauze, crooning and active eyelid reflex. Two days later the cystoscopy was repeated for forty minutes, the same condition being maintained. The success of this experiment, with no ill results from the anesthetic, led to the use of nitrous oxid in all cases over six months, where ether was contraindicated, such as renal or pulmonary complications, septic conditions and mastoidectomies.

NITROUS OXID AND OXYGEN ANESTHESIA

Covering a period of two years, among thirty cases under four years of age, operated with nitrous oxid and oxygen anesthesia, for periods of a few minutes to an hour and forty minutes, a few are illustrative of the advantages of this method:

Mastoidectomies in infants of seven and nine months each.

Double mastoidectomy in an eleven months' baby.

Three mastoid operations on a fourteen months' baby, with sinus thrombosis, and ligation of jugular, within a period of a month.

Six cystoscopies in children under five years; in one case, repeated four times in a period of five weeks.

Nitrous oxid is the anesthesic of choice for mastoidectomies as, in a large percentage of cases, these are performed in the presence of some acute pharyngeal condition, contraindicating ether. Except during the periods of initial incision and closure, analgesia is all that is necessary.

A cystoscopy usually presupposes some kidney or bladder pathology; here also ether should not be used and the lightest anesthesia suffices after the introduction of the cystoscope.

The treatment of asphyxia in cesarean babies should be supervised by the anesthetist, and after ascertaining if there be any obstruction to respiration, carbon dioxid 5 per cent with oxygen 95 per cent, as recommended by Yandell Henderson, is usually sufficient to overcome the asphyxia. As in all cases of respiratory arrest time is an important factor, the success of any method being in inverse ratio to the time elapsed before its application. Premedication, preferably with one of the barbiturates in careful dosage, aids greatly in the safe anesthetization of older children but is contraindicated in babies under two years.

SUMMARY

The anesthetization of infants from birth onward may be safely done provided that bodily heat be conserved during and after operation; that ether, when not contraindicated by respiratory or renal dysfunction, be vaporized at a distance of at least 18 inches—which insures its being delivered at room temperature—and that the degree of anesthesia be as light as consistent with the needs of the surgeon.

807 Francisco Street.

DISCUSSION

Alanson Weeks, M. D., and G. D. Delprat, M. D. (384 Post Street, San Francisco).—It seems a presumption on our part to attempt to discuss anything Doctor Botsford says in connection with anesthesia.

One of us has worked with her for thirty years. She has given anesthetics to most of the doctors' families in San Francisco; which means, she passed a severe test as a safe anesthetist among the professional people who should know enough to pick the best. She has trained anesthetists from all parts of the world. She has induced general anesthesia for us in at least a hundred babies suffering from congenital pyloric stenosis, without a single death as a result of such anesthesia.

We are glad to see that she still allows us to use ether in babies, even though she so strongly favors nitrous oxid and oxygen. We have insisted for years that good relaxation in abdominal surgery gives the operator a better chance to handle his tissues gently. Even though light anesthesia may be a little safer, the necessary abuse of tissue is altogether too great because of the lack of relaxation. It has been perfectly possible for us to do abdominal operations on babies under local anesthesia and with insufficient relaxation, but the time necessary under such circumstances to replace an omentum, which eternally fights to get as far out of an open abdomen as possible, will do more harm to the babies than will a little more of a less safe anesthetic agent.

We have insisted that the anesthetist was the most important member of the team doing abdominal surgery on patients of any age.

⁂

C. F. Gelston, M. D. (Children's Hospital, San Francisco).—It has been my privilege for twenty years to rely upon the author's judgment in the matter of type of anesthetic and its mode of administration in infants and children requiring operative procedures. The conservatism she advocates, combined with a studied judgment of each individual patient both as to history and physical findings, serve to give practitioners an absolute confidence and a minimal mortality. The criteria of safety in dealing with this very important problem in pediatric practice, as outlined by the author, should appeal to all physicians.

⁂

Caroline B. Palmer, M. D. (2904 California Street, San Francisco).—This paper is of real value to surgeons and anesthetists alike. The fact that the statements made are the outcome of many years of experience and intelligent observation adds authority to statements and conclusions. The author has done much for the development of safe anesthesia.

Every point brought out is of the utmost importance, making it useless to enumerate them. I can but endorse the paper as a whole.

"THE CORONER'S SYSTEM"

By Jesse L. Carr, M.D.
San Francisco

I

By the report of the National Research Council in 1928, the coroner's system was indicted in the United States. At this time, after an apparently unbiased investigation of the relative merits of the coroner and the medical examiner, the coroner's system was condemned without qualification, and its abolition was advised. This condemnation proceeding was instituted after first considering the inadequacies and evils of the coroner's plan, following which these were compared with the apparent benefits of administration by a medical examiner in the centers where such changes had been made. At that time the main objections to the general system were two: First, the office of the coroner was elective, although he decided no questions of public policy, and the office could easily be made a site of political intrigue. Second, although instituted in the reign of Henry IV during the early part of 1194, it had not kept pace with the advance of medicine generally, but was still resting on the archaic foundation originally constructed, and operating with a senescence in keeping with its age. The report visualized the coroner as frequently a poorly paid, untrained and unskilled politician who, popularly elected for a short time, often held office with a small, mediocre staff, working in inhospitable surroundings, with wholly inadequate equipment. The report further specifically enumerated the evils and weaknesses of the coroner's office in San Francisco at that time, the objections being in the order of undesirability:

1. That the coroner's office was elective.
2. That, although the morgue was modern and adequate for gross pathology, there were no facilities for microscopical or bacteriological work.
3. That no file for scientific reference was kept.
4. That microscopic work done outside for the office was accepted by the coroner's pathologist only if it pleased him.
5. That no use was made of the vast amount of teaching material available.
6. That the coöperation between the coroner and the legal and prosecuting staffs of the city was poor, and that cases were frequently neglected because of the trouble necessary in collecting facts for their prosecution.

RECENT ARTICLES ON THE SUBJECT

More recently, many articles * have appeared from the pens of those who are aware of an old situation. They complain of the system in various modern rearrangements of the old theme, and suggest that it is time for the people to awaken and do something about it.

As advised by many, the coroner's office can be abolished by statute and a medical examiner substituted; the inference being that such a medical examiner will be capable of conducting an able pathological and medico-legal study. This substitution will indeed solve many difficulties if it can be done simply, but changing statutes is a long and tedious process and the supply of good medical examiners is limited. There is obviously no benefit in substituting a poor medical examiner for a coroner, good or bad.

The other alternative is to place in the office of coroner such an individual as one would select for medical examiner, and one who can develop the office to its necessary capacity.

Doctors have been and will again be elected to this office without changing statutes or losing caste. They will not at first be either entirely qualified or efficient, but the improvement over the quality of ignorance and opacity presiding in these offices at present would be considerable. It is the old problem of evolution versus revolution; and, certainly, with the vote of the sovereign people, intelligent doctors in their counties can begin the evolution of adequate medical-examining individuals or boards by use of the popular vote.

THE CORONER'S OFFICE OF THE CITY AND COUNTY OF SAN FRANCISCO

Many of these social and political changes have already occurred in the city and county of San Francisco. Because of this, and with the knowledge that things happening here can occur elsewhere, the development and progression of the coroner's office is detailed below; not necessarily as a model, but as an example of possibility.

During the past six years the San Francisco coroner's office has had an opportunity either to prove the committee's original contention by a haphazard and mediocre continuation of the old-time coroner's system or to demonstrate that, with proper changes, even the old system could be made efficient. It is interesting now, in retrospect, to compare the committee's criticisms and advices with the subsequent changes in régime and to measure the composite of this development with the structure of the medical examiners' systems operating in several large eastern cities.

A year after the committee report in January, 1929, a grant from the city established the laboratory of microscopic and cellular pathology and bacteriology at the city morgue. A technician was provided and a supervising pathologist was placed in charge of the pathology on part-time basis. Shortly after this appointment the files of the office were revised and microscopic reports were incorporated in the protocol. These were accepted without qualification by the autopsy surgeon and read to the coroner's jury as part of the evidence. They were refiled with the complete protocol.

In 1932 the city of San Francisco, after several years of study adopted a new charter, under the provision of which the coroner's office was removed from election by popular vote and made appointive; the choice being made by the chief administrator's office, with the approval of the Board of Supervisors, recall being accomplished by the same sequence following conviction by open trial.

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* Editor Note.—One of the articles to which Doctor Carr refers was the editorial, printed on page 340 of the November, 1934, issue of California and Western Medicine, in which attention was called to the excellent "Coroner's System" exhibit of the Institute of Medicine of Chicago at the Century of Progress Exposition. On page 356 of the same number, a leaflet put out by the Institute was reprinted.

In order to present both sides of the question, a proof of Doctor Carr's article was sent to Dr. Oscar T. Schultz, chairman of the Committee on Medico-legal Problems of the Institute; and his comments, which follow on page 275, are printed as Part II of this discussion of "The Coroner's System," his paper being captioned: "Why the Medical Examiner Instead of the Coroner?"

Under an arrangement with the University of California, much of the valuable material from the city morgue was taken to the University of California Museum, where it was mounted. On January 1, 1933, by further correlation with the University of California, utilization of the coroner's material for clinicopathological teaching began, and since that time clinicopathological conferences have been held at the San Francisco City and County Hospital, Mount Zion Hospital, French Hospital, and the University of California Hospital on cases previously seen in these institutions and subsequently autopsied at the coroner's office. This correlation of clinical and autopsy material has been of infinite benefit not only to students, but to the attending staffs of these hospitals, and has enabled the coroner's office to augment the protocols of these cases with complete clinical records.

In June, 1933, the city and county built and equipped for the coroner's department a museum room at the city morgue, for preservation of suitable material as evidence, and for the use and education of the office and its staff. In August, 1933, a complete Leica system was installed for routine photography, and a Bausch & Lomb bullet-comparison and hair-comparison microscope was purchased for use in the study of criminal cases. A dark room was built in the laboratory, with the usual developing and enlarging equipment set up in this space. The photographic material is filed numerically with the gross and microscopic findings.

By evolution in the six years just past, the coroner's system in San Francisco has become a singular example of the medico-legal phase of administration in city government. The coroner holds office by the same virtue that a medical examiner is appointed. He has the same power, except that his opinions are balanced by jury. Diagnosis rests not alone with the autopsy surgeon, but with the pathologist who checks the work done at the autopsy table, and the consulting chemist, who analyzes the organs. Through association with both the State University and the City Hospital, the coroner's material is used for teaching; and by this connection the coroner has the privilege of calling any of the staff of the University of California Pathological Department into consultation. The toxicologist remains unchanged and his work uncriticized.

SUGGESTIVE VALUE OF THE CHANGES MADE IN SAN FRANCISCO

The foregoing is offered, it must be realized, not as defense of an office, but rather as an invitation to the medical profession throughout the State to observe the changes and advantages possible under an operating coroner's system. That such changes can occur with even greater facility outside of San Francisco than they have here should go without saying; but that these changes must be effected by the medical profession, both in the nomination of proper individuals to hold the position of coroner and in the appointment of adequately trained autopsy surgeons, is essential. At the present time the shift of the coroner's system to a medical-examining system in practically any county of California would result in no improvement of conditions, and possibly contribute to a state less desirable than that which now exists. The reason for this is, of course, that there are few adequately trained medico-legal investigators in the profession. We see this tragic ignorance manifest frequently in autopsies which are performed by physicians at the request of county coroners throughout the country. To handle the situation there must be members of each county group who have, at least, the fundamental training requisite to doing an intelligent pathological study on the human body; and they must add to this knowledge certain essential points in the detection and conviction of crime. Facilities for such education are at hand. The need is imminent, and the personnel certainly must be available.

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WHY THE MEDICAL EXAMINER, INSTEAD OF THE CORONER?

By Oscar T. Schultz, M.D.* †
Evanston, Illinois

II

DR. CARR'S opening sentence refers to a study made for the Committee on Medicolegal Problems of the National Research Council, the results of which study were published in 1928.[1] In 1932 there appeared the results of a further study[2] undertaken for the same committee of the National Research Council. The later study reviewed again the problem presented by the coroner's office in the United States, chiefly from the standpoints of how the work done by this office fits into the general field of legal medicine in this country, and how legal medicine should and might be developed.

In the discussion of possible future developments, attention was called to the fertile and promising field presented in certain states through the state university. A statement (pp. 73-76) by the president of the University of California revealed a deep insight into the problems of legal medicine as they affect the people at large, and a broad vision of how these problems might be met through the University of California. In my discussion of the outlook in California I noted the change that had been made in the selection and tenure of office of coroner brought about by the new charter of San Francisco County. Furthermore, looking into the future, I wrote as follows (p. 76): "A coroner, freed of political alliances and entanglements, and serving for life or during good behavior, has presented to himself the opportunity of making of his office an efficient agency in the administration of justice. If he conducts his office in the proper coöperative spirit, he will find already organized in the medical schools of his community, and always ready to serve him, a type of scientific service that an elective coroner would find it difficult or impossible to duplicate. The change brought about by the new charter of San Francisco County should make the coroner's office an important factor in the developments that the president of the University of California has outlined."

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* From the office of the chairman of the Committee on Medicolegal Problems of the Institute of Medicine of Chicago.

† Editor's Note.—This is a companion article to Dr. Jesse L. Carr's paper on "The Coroner's System," printed on page 274.

See also letter from Doctor Schultz, printed in this issue, on page 317.

[1] Schultz, Oscar T., and Morgan, E. M.: The Coroner and the Medical Examiner. With a Supplement on Medical Testimony by E. M. Morgan. Bull. No. 64, National Research Council, Washington, D. C., 1928.

[2] Schultz, Oscar T.: Possibilities and Need for Development of Legal Medicine in the United States. With a Supplement on University Departments in the Field of Criminology. Bull. No. 87, National Research Council, Washington, D. C., 1932.

PRESENT STATUS OF CORONER'S OFFICE IN SAN FRANCISCO

From what Doctor Carr has written about the present status of the coroner's office in San Francisco, it would appear that the prophecy made relative to that office has in large measure been borne out. Every physician and every nonmedical person interested in a better application of medical science in the administration of justice will applaud the good work done.

The prime factor in the better functioning of the office of coroner of San Francisco has undoubtedly been the removal of the office from the field of elective politics. This makes for continuity of service, increasing experience with each year of service, constructive development of the office, and better work in the interests of the public. More liberal financial support, which has made possible histopathologic, bacteriologic and toxicologic work and apparatus for other forms of medicolegal investigation, has been an important factor. But this, too, has its root in the fact that an appointive coroner can devote his thought and attention to improvement of the work of his office rather than to a political campaign for election or reëlection. If every coroner's office in the country could be placed on the same basis as that of San Francisco, there would be little need to urge abolition of the office, although there are still some fundamental features, that will be discussed in a moment, which make the medical examiner system preferable to the coroner system. Complete reform of the latter requires more than making the coroner an appointive official.

INDICTMENT OF THE CORONER'S SYSTEM

In his opening reference to the National Research Council's 1928 report, Doctor Carr says that "the coroner's system was indicted in the United States." In the isolated instance of San Francisco the indictment may be quashed, but in practically every other jurisdiction it will have to stand. Great improvement has been made in the functioning of the office of coroner of Hamilton County (Cincinnati), Ohio. This was done by electing a physician who was not a politician, and who did not seek the office; by his appointment of a competent coroner's pathologist under a statute that provides for such an official in the two largest counties of the state; by correlating the work of the office with that of the medical school of the University of Cincinnati, and by designating the well-equipped morgue of the Cincinnati General Hospital the official coroner's morgue. But the coroner of Hamilton County is still an elective official, and the incumbent of the office cannot much longer be expected to sacrifice his professional career for an obscure office from which he may be ousted by a petty politician in a political campaign. The coroner of Hamilton County, as the result of his experience, is a strong proponent of the medical examiner system. Outside San Francisco and Cincinnati, what has the coroner system to offer as a plea against the indictment that it is an inefficient, ineffective, and archaic agency of government?

SHOULD STATUTES GOVERNING CORONER'S SYSTEM BE CHANGED?

If Doctor Carr had limited himself to an exposition of the excellent progress made in the coroner's office of San Francisco, little comment would have been necessary other than to say, "Well done, keep up the good work." But Doctor Carr makes the good record of a single coroner's office the basis of an argument against adoption of the medical examiner system. He says "changing statutes is a long and tedious process." Changing statutes so that the counties of other states may do what San Francisco County has done may be an even more tedious process than a change that substitutes the medical examiner for the coroner. In a recent article,[3] I have discussed the effects that modernized forms of county government, such as have been proposed in a number of localities, may have upon the coroner's office. I expressed the view that neither a reformed coroner system nor a medical examiner system will solve the medicolegal problems of rural counties.

Whether statutes have to be changed or not is not a valid argument either for retention of the coroner or his replacement by a medical examiner. Certainly a radical change of statute was necessary before the coroner of San Francisco County could be made an appointive official serving for an indefinite period. It was this fact of continuous nonpolitical service, not the fact that the title of the office was not changed by statute, that made improvement possible.

ANTIQUATED LAWS RESPONSIBLE FOR POOR CORONERS

Doctor Carr further says: "Doctors have been and will again be elected to this office without changing statutes or losing caste." Here, there, and elsewhere physicians have been elected and have served as coroners. Inasmuch as physicians are better educated and trained, they should be better coroners than the politician coroners of populous counties or the undertaker coroners of rural counties. But they are not good coroners—and this is said with all respect to those hard-working physicians who serve their communities as coroners. Coroners are poor officials, not because they may be physicians on the one hand, or incompetent laymen on the other, but because of the antiquated laws under which they must function. Again there arises a question of change of statutes. It is not the fact that the coroner of San Francisco may be a physician that alone has led to improved functioning of that office, but the fact that the coroner can look forward to continuous and constructive service. Given as coroner an honest, intelligent man, with good legal training and with sufficient foresight to place a qualified medical man in charge of the medical work and to give the latter proper facilities for scientific work, it is conceivable that such a coroner might do even more with the office *under the existing laws relating to that office.*

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[3] Schultz, Oscar T.: Reform in County Government and the Coroner's Office, Am. J. Clin Path., 5:316 (July), 1935.

EFFICIENT MEDICAL EXAMINERS WOULD SOON BE SUPPLIED

As a further implied objection to the medical examiner system, Doctor Carr says: "The supply of good medical examiners is limited." This fact, like the others quoted, is granted. The coroner system, during the years that it has been in existence, has developed few experts in forensic medicine. Those who have become expert in this field have done so because of experience gained in other fields, and because of other connections that have made scientific work possible. The reason for the failure of the coroner system to develop a corps of experts is obvious. An elective office, with its frequent upheavals and turnovers, and its insecure tenure of office, does not attract well-trained young physicians into what should be an attractive and important subdivision of medical science. Lack of facilities for good work, and the general disrepute of the office of coroner in the past, are further deterrents.

If within a short space of time every coroner were made appointive, as has been done in San Francisco County, the dearth of men trained in medicolegal pathology would be as great as if, within the same period of time, the medical examiner system were to be universally adopted. If the coroner's office could be removed from politics and the tenure of coroner's physician made secure, or if—and this is equally important—a medical examiner system with secure tenure of office were universally adopted, men would be attracted into the field of legal medicine. Under such conditions offices like those of the coroner of San Francisco County, or those of the medical examiners of Boston, New York City, and Newark, would become centers for the training of experts. Our medical schools would be forced to establish schools or institutes of legal medicine, just as the increasing demand for full-time public health officers led to the establishment of institutes of hygiene and public health.

SUCCESS OF APPOINTIVE OFFICE IN SAN FRANCISCO AN ISOLATED EXAMPLE

Making the coroner an appointive official has led to great improvement in the office of coroner of San Francisco County. But the office has been appointive in a number of states for a longer period of time than has been the case in San Francisco, and this has led to no elevation of the character of the office. Removing the office from politics by making the coroner appointive will not cure all the evils of the office.

Every study has shown that one of the bad features of the office is the antiquated body of law under which the coroner must perform his duties. More is needed than a little tinkering here and there of the laws relating to the method of selection or other minor details. Such inexpert tinkering leaves the vehicle still a horse and buggy, and does not make of it a modern automobile. The entire body of laws relating to the office should be thoroughly revised and made to fit present-day conditions. In this respect the medical examiner system has a distinct advantage. Where that system has been adopted an entirely new law has been written, and this more clearly defines the duties and authority of the medical examiner than does any statute relating to the coroner.

EVIL OF THE CORONER'S INQUEST

There is left still one more evil which, to my mind, is the worst of all. I refer to the coroner's inquest before a jury. The coroner's inquest is a magisterial or quasijudicial proceeding, which is useless and often pernicious in that it duplicates and often impedes the work of other established and more competent agencies. With this view Doctor Carr evidently does not agree because he says, in contrasting the coroner with the medical examiner, "his opinions are balanced by jury." If coroner's juries in San Francisco are anything like the usual jury in Chicago or Cleveland or Cincinnati or Philadelphia or anywhere else, I question whether a man capable of forming a scientific opinion would want his opinion balanced by such a jury, or whether it is advantageous to the community to have such a balance.

PROPER MEDICOLEGAL MEDICINE NEEDED IN AMERICA

What this country needs to place legal medicine on the high plane of this discipline in countries other than those influenced by English law, is an agency for the investigation of certain classes of deaths clearly specified by law. The investigation should be of the dead body for the purpose of determining in as accurate and scientific a manner as possible the cause of death, and of any material that may yield information relative to the circumstances surrounding death. Such an investigation is wholly a function of medical science and of a medical science that can make use of all the auxiliary sciences whenever necessary. All other investigations which have to do with the detection, apprehension and punishment of those who may have a criminal or negligent responsibility for death should be left to police agencies, the grand jury, the prosecutor and the courts. Under such a system medical science does those things which it alone can do and does only those things. The agency for such an application of medical science in the administration of justice is, in effect, the medical examiner. The latter should be a medical scientist, not a magistrate of the caliber of a rural justice of the peace, or a detective or a policeman or a partisan ally of the prosecutor.

MEDICAL EXAMINER SYSTEM HAS PROVED SUPERIOR TO THE CORONER'S SYSTEM

The adoption of the medical examiner system does not by any means solve all the medicolegal problems of an American community. But that system has proved its superiority over the coroner system in those jurisdictions where it has been tried. In rural communities—and it is to be noted that in such communities it has been used only in Massachusetts under a law passed in 1877—the medical examiner system is better than the coroner system, but still leaves something to be desired. One of the fundamental errors of the coroner system is that a purely rural English office was adopted for, but not adapted to, all of the various kinds of communities that exist in the United States. The same mistake should not be made in attempting to improve the present state of affairs. But in rural as well as in urban jurisdictions, in agricultural as well as in industrial counties, the fundamental medicolegal problem is scientific medical examination. How this is to be obtained for rural governmental units is a problem for the political scientists, but one for whose solution the best advice of the medical profession will be necessary. With adequate financial support the medicolegal agency of a large city can develop its own scientific departments. Scientific medicolegal service for rural counties will probably require the establishment of such state medicolegal institutes as have been recommended by the American Medical Association and the American Bar Association.

IN CONCLUSION

In conclusion, I do not wish to be understood as in any way criticizing the office of coroner of San Francisco County. On the contrary, I wholeheartedly applaud the improvement that has been made in that office since the National Research Council's study of 1928. But that office, like every other coroner's office in the United States, still operates under the handicap of archaic laws. A change of statute law was necessary to bring about such improvement as has occurred in San Francisco. Other changes in laws will be necessary before the office can become a first-class medicolegal agency. Change of statutes is, therefore, no valid argument against adoption of the medical examiner system.

I have had the privilege of reading, in advance of its publication, Doctor Carr's article in proof, and I appreciate having been asked to comment upon it.

St. Francis Hospital.

THE LIVER IN RELATION TO THE SURGICAL TREATMENT OF LESIONS OF THE EXTRAHEPATIC BILE DUCTS*

By VERNE C. HUNT, M. D.
Los Angeles

DISCUSSION *by Clarence G. Toland, M. D., Los Angeles; Fred Fairchild, M. D., Woodland; Emmet Rixford, M. D., San Francisco.*

IN a general way it has been known for many years that disturbances in the biliary apparatus influence materially the functions of the liver; however, not until during the past decade, or thereabouts, has there developed a very definite understanding of the various disturbances of the hepatic functions. The pathology of organic diseases in the liver has long been well known, and surgeons have been cognizant of the hazards and the increased risk of surgical operations not only as they were instituted upon the biliary tract but, if instituted elsewhere in the body, in patients in whom one of the various types of cirrhosis was present, or in patients in whom gross pathologic changes in the liver of one kind or another had occurred. Surgeons have recognized for many years that deep, prolonged obstructive jaundice presented distinct hazards to surgical operations upon the biliary tract, and they also recognized certain manifestations resulting from such obstructive jaundice which they were unable to adequately explain or combat. Halsted was one of the first to direct attention to the danger and the high mortality attending operations upon the biliary tract in the presence of deep, prolonged obstructive jaundice where at operation the content of the dilated common duct was a colorless, thin watery material, entirely devoid of bile pigment, which became more thin and watery after drainage was instituted. Likewise, surgeons have for many years recognized the tendency to operative and postoperative bleeding in patients with prolonged obstructive jaundice.

VALUE OF RECENT LIVER STUDIES

During recent years investigative work has contributed much to a better understanding of the normal functions of the liver, and the alterations in the functional activity of the liver in the presence of pathologic conditions or states in which the liver is either directly or indirectly involved. Much has evolved which has been purely of scientific interest, but much of the knowledge that has been derived from the investigative efforts of the physiologists in particular has become of immeasurable value in its practical application, and through which have evolved certain relative tests of liver function and the development of preoperative therapeutic procedures. These have materially increased the safety with which patients in whom marked disturbances in hepatic function have occurred may be operated upon.

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* Read before the joint meeting of Medicine, Surgery, Pathology and Bacteriology, and Obstetrics and Gynecology sections of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1935.

The work of Mann and his coworkers and others, wherein the power of regeneration of the liver has been exhibited, has been of more than scientific interest. Quite coincidental and perhaps not entirely independent of the regenerative power of the liver, has been the frequent clinical observation of the great recuperative power in the liver following the relief of prolonged obstructive jaundice, resulting in marked diminution of the size of the liver, from a large hypertrophic type of biliary cirrhosis, in which there has been a marked hepatic insufficiency, to one of approximately normal size in which restoration of clinically normal function has occurred.

The closely correlated work of the surgeon and the physiologist, as exemplified by that of Judd and Mann, has provided during recent years considerable understanding of the relationship between the liver and the extrahepatic biliary tract. In the light of present-day knowledge it would seem that one might not safely regard extrahepatic biliary tract disease without clinical manifestations of hepatic involvement as a process confined to the extrahepatic tract without direct or indirect involvement of the liver. Cases of clinically uncomplicated cholecystitis so frequently exhibit at surgical exploration a process in the liver immediately adjacent to the gall-bladder which has been designated hepatitis. Many have directed attention to this condition existing in a variable degree of intensity, which has probably justly been assumed to be secondary to the inflammatory process in the gall-bladder or biliary tract.

"LIVER DEATHS"

During recent pears a certain group of deaths following operations upon the biliary tract have been designated "liver deaths." These have been of two types: those cases in which there were clinical manifestations of associated or resultant hepatic insufficiency, usually due to biliary obstruction; and those cases in which jaundice had never been present and did not exist at the time of operation, and from clinical observation no important changes in the liver were suspected, nor at surgical exploration was any gross abnormality in the liver found. It is this latter type which has proved most perplexing in that the postoperative course is characterized by high fever, high pulse rate, a semicomatose state and death within thirty-six to forty-eight hours; and at autopsy adequate cause of death is lacking. Heyd was perhaps the first to direct attention to this entity, which he ascribed to hepatic insufficiency and designated as an instance of "liver death." Connell, Weiss, Heuer, and others, have emphasized hepatic insufficiency as the cause of death following operations upon the biliary tract. Heuer has recently stated that approximately 4 per cent of the deaths following operations on the biliary tract were due to hepatic insufficiency.

METABOLIC FUNCTIONS OF THE LIVER

The metabolic functions of the liver are complex, and the measure of the degree of disturbances of the various functions in organic disease of the liver has not been determined. Certain tests of relative value may indicate diminished function, but the functional capacity of the liver is as yet not measurable. Certain data are available, however, which serve to a better selection of the time for the institution of surgical procedures in biliary tract disease, and the direction of preoperative and postoperative methods to improving and sustaining the hepatic functions.

While the liver may undergo marked changes incident to clinically uncomplicated biliary tract disease, one has little reason to suspect hepatic injury until jaundice becomes prominently manifest. With the onset of jaundice, whether or not accompanied by pain, involvement of the extrahepatic bile ducts by disease is immediately suspected. In general it may be stated that jaundice may justly infer hepatic involvement, whether the jaundice is of the obstructive or non-obstructive type. There are certain instances of non-obstructive jaundice in which hepatic injury and resultant insufficiency are extremely marked. For purposes of this discussion, obstructive jaundice only shall be considered.

ELEMENTS OF SURGICAL IMPORTANCE

A number of things are of major importance to the surgeon in the surgical treatment of the various obstructing lesions of the extrahepatic bile ducts. Among them are the questions of hepatic insufficiency and disturbances in the blood resulting in a bleeding tendency. A major function of the liver, and one upon which the relative safety of operations upon the biliary tract is dependent, is that of carbohydrate metabolism, which, so far as is known, is not shared by any other organ or structure in the body. Without entering into a discussion of the evidence, it is well known that the rôle of the liver in carbohydrate metabolism in maintenance of blood sugar levels is necessary to life. It is likewise well known that the glycogen store, although not entirely confined to the liver, is depleted through any disturbances of carbohydrate metabolism when true obstructive jaundice exists. The more complete the biliary obstruction and the longer its duration, the greater is the disturbance of carbohydrate metabolism and glycogen depletion.

BLEEDING IN THE JAUNDICED PATIENT

The tendency to operative and postoperative bleeding in the jaundiced patient has been a complex problem which has resisted solution, so far as the factors involved are concerned, but which, in a general way and from a practical viewpoint, has become controllable to an increasing degree. Much investigation has been conducted regarding changes that occur in certain elements of the blood and their relation to coagulation in cases of prolonged obstructive jaundice. That the coagulation time and the bleeding time of the blood are materially prolonged in many instances has led to the erroneous deduction that the tendency to operative and postoperative bleeding does not exist if the coagulation time and bleeding time of the blood are within normal limits. Numerous instances have proved that normal coagulation time and normal bleeding time in obstructive jaundice do not necessarily eliminate from consideration the hemorrhagic tendency. Much of the therapy instituted in the elimination of this hemorrhagic tendency has been directed toward combating deficiencies in the clotting elements of the blood. However, little question remains that a deficiency in one or the other of these elements does not consistently exist in the instances of hemorrhagic tendency in obstructive jaundice. In 1929, Mann proved conclusively that the liver has little, if anything, to do with the clotting elements in the blood, and stated that, following total hepatectomy in the experimental animal, no appreciable change occurred in the calcium content nor in the prothrombin content of the blood; also that fibrinogen is not altered by the process of hepatectomy, and that antithrombin may increase or may be decreased in the absence of the liver.

More recently the most excellent work of Carr and Foote, as carried out on a series of patients with obstructive jaundice and in the experimental animal, provides conclusive evidence that there is no significant variation in the amounts of the formed clotting elements of the blood. Loss of the retractile power of the fibrin and the whole clot was noted. They concluded that the error in clotting is due to an additional product which inhibits the process or interferes with the clotting mechanism rather than to an insufficient amount of any of the elements contributing to the normal clotting complex. Carr and Foote have emphasized that in obstructive jaundice the coagulation time may not be prolonged, but that the bleeding tendency exists because of the formation of the clot as influenced by an inhibitory product—not as a strong type of occluding mesh which retracts and efficiently prevents the escape of blood, but as the precipitation of a porous, non-retractile, friable gel of poor consistency, which is not capable of obstructing the flow of blood and plasma and, through which both cells and plasma pass slowly. Cystein, a protein product, observed by Mueller and Sturgis to be an anticoagulant and known to accumulate in excessive amounts in obstructive jaundice, possesses the ability, according to Carr and Foote, to influence the plasma and clotting elements, to the formation of a faulty or leaky clot. Furthermore, these authors state that they have eliminated the bleeding tendency in obstructive jaundice in the experimental animal through the reduction of the amount of circulating cystein by the administration of brombenzene.

Even though it has been proved that a deficiency of calcium in the blood does not exist in obstructive jaundice, the intravenous administration of calcium in the jaundiced patient has had apparent influence in the reduction of the coagulation and bleeding time when they were abnormally prolonged, and under such conditions has apparently reduced the hemorrhagic tendency in many instances. Likewise, transfusions of blood have often brought about a reduction of prolonged coagulation and bleeding time to within normal limits, as has the intravenous administration of glucose. These are all measures which, in accordance with present knowledge, merit continued use in the preoperative and postoperative management of the patient with obstructive jaundice. Glucose administered intravenously not only possesses some value in reducing the hemorrhagic tendency in cases of prolonged obstructive jaundice, but also provides for restoring and sustaining the glycogen reserve in the liver.

No accurate methods exist by which the bleeding tendency in obstructive jaundice may be anticipated. The statement has been made repeatedly that the coagulation and bleeding times are of no value in determining a tendency to bleeding, to which it seems some reservations should be made. A normal coagulation and bleeding time does not necessarily eliminate from consideration the bleeding tendency, but the abnormally prolonged coagulation and bleeding time provide very definite evidence that a hemorrhagic tendency does exist.

PANCREATIC INSUFFICIENCY

While the surgeon is chiefly concerned in obstructive jaundice with hepatic insufficiency and the hemorrhagic tendency, there are obstructions in the terminal portion of the common bile duct in which there is associated obstruction to the passage of pancreatic secretions into the duodenum, with resultant pancreatic insufficiency. Occasionally such associated pancreatic retention and insufficiency are encountered when a stone is firmly impacted in the ampulla of Vater, but more frequently when the obstruction is due to primary or secondary malignant disease involving the ampulla of Vater or the periampullary region of the duodenum. Intractible diarrhea and rapid decline of the patient in obstructive jaundice suggests associated pancreatic retention and insufficiency.

JAUNDICE NOT ALWAYS PRESENT

Before one may clinically suspect involvement of the common or hepatic duct in disease of the biliary tract, the symptom of jaundice must have occurred previously or must be present at the time. It is noteworthy, however, that intrinsic pathology in the ducts may exist without jaundice and, furthermore, that not all instances of jaundice indicate obstruction of the common or hepatic ducts, or even the existence of pathology in the biliary tract. Lahey has recently stated that in 37 per cent of the patients in whom he had removed stones from the common or hepatic ducts, jaundice was not present either at the time of operation or at any time in the past history. Judd and Marshall, following the review of a large series of cases in which stones had been removed from the common duct, noted that there was an absence of jaundice previously or at the time of operation in 26.5 per cent of the cases.

OBSTRUCTIVE AND NON-OBSTRUCTIVE JAUNDICE

Since jaundice must be present to direct attention to the extrahepatic bile ducts, the clinical diagnosis is dependent upon whether the jaundice is obstructive or non-obstructive. It is necessary that these two types of jaundice are differentiated, but this is not always possible and errors in diagnosis occur. Likewise the differential diagnosis of the various causes of obstructive jaundice often presents a most complex problem, and an element of error is always present, as has been proved at operation and at necropsy. Experience has proved that in the absence of contraindications, and after sufficient rehabilitation of the patient, directed particularly to the restoration of the glycogen reserve of the liver and the reduction of the bleeding tendency, practically all cases of obstructive jaundice should be surgically explored. In applying such a general rule, it will sometimes happen that through difficulties of accurate differentiation, an occasional case of non-obstructive jaundice will be operated upon. Such an occasional exploration is far less serious than to allow a case of obstructive jaundice caused by a surgically removable process to remain unexplored indefinitely through the adoption of a more conservative policy.

The greatest difficulty of ascertaining whether the jaundice is obstructive or non-obstructive, and whether surgical exploration is advisable, occurs in those cases in which the jaundice is not accompanied by pain. Calculous disease of the biliary tract provides by far the most frequent cause of extrahepatic bile duct involvement, resulting in ascending infection and intermittent incomplete or complete obstruction. Crump demonstrated in one thousand consecutive autopsies that stones were present in the ducts in 24 per cent of the cases of calculous disease of the biliary tract, or 21 per cent of the gall-stone cases if stones in the cystic duct were omitted. Clute and Swinton have recently stated that common and hepatic-duct stones have been found in 17 to 21 per cent of the cases that have been operated upon for gall-stone disease in the Lahey Clinic. In 1931 Judd and Marshall stated that stones were removed from the common or hepatic duct in 13.2 per cent of a large series of cases of gall-stone disease. In reviewing a series of cases of gall-stone disease that I had operated upon previous to 1930, it was noted that the common duct had been opened in 13 per cent of the cases, and that such exploratory choledochostomy had been productive of stones in a little more than half of the cases, or in 7.3 per cent of the series. Appreciation of a higher incidence of common and hepatic-duct stones in recent years caused me to review recently the cases of gall-stone disease that that I have operated upon during the past five years. In this latter series the cases were divided into two groups: (1) those in which at a primary operation on the biliary tract for calculous disease in which the common duct was incised and explored in 32 per cent of the cases, productive of stones in slightly less than one-half of the cases or 13 per cent; (2) and those in which a previous operation for gall-stones had been done elsewhere or by me with a recurrence of symptoms referable to the extrahepatic ducts, in which the common duct was incised and explored in each instance at the subsequent operation productive of stones in 80 per cent of the cases. In the two groups of calculous disease as a whole, the common duct was incised and explored in 40.9 per cent of the cases, and stones were removed from the common or hepatic ducts in nearly half, or 20 per cent of the cases. It is apparent that stones in the common and hepatic ducts are present much more frequently than was formerly supposed, and do not necessarily produce obstructive manifestations; but when present, if not actually producing obstruction, persist as potential causes of recurrence of symptoms and infection and disturbances in the liver. The increasing frequency with which stones are found to exist in the common or hepatic ducts justifies, in the absence of contraindications, incision of the common duct and exploration of its interior in not only those cases in which stones can be palpated in the common or hepatic ducts, but in those cases in which one or more stones are impacted in the cystic duct at its junction with the common duct, all cases in which an antecedent history of jaundice has existed or in which jaundice is present at the time of operation, and in all cases in which undue dilatation of the common duct is observed.

OBSTRUCTIVE JAUNDICE AND CHRONIC PANCREATITIS

Among the cases of obstructive jaundice, those due to chronic pancreatitis often are amenable to surgical drainage of the common duct over a relatively long period of time. The various strictures of the common and hepatic ducts are often associated with complete obstructive jaundice, with resultant marked hepatic injury and insufficiency. While stricture of the ducts rarely is encountered as a congenital process, and the inflammatory stricture resulting from an obliterative cholangeitis occurs with relative infrequency, the postoperative stricture due to division of the common duct, excision of a segment of the duct or its inclusion in suture or ligature incident to cholecystectomy, provides a situation which usually may be treated surgically by a reconstructive procedure attended in many instances with entirely satisfactory results, even though considerable biliary cirrhosis and hepatic insufficiency have developed.

PRIMARY CARCINOMA OF THE EXTRAHEPATIC DUCTS

The operability of primary carcinoma of the extrahepatic ducts has not been great, and the mortality rate of radical removal of such lesions has been high. Primary carcinoma of the distal end of the common duct or in the periampullary region of the duodenum producing both bile and pancreatic retention, with rapid decline of the patient, presents formidable surgical problems not only in the technical execution of a radical extirpation of the lesion, but in the control of the various factors contributing to the surgical risk. Following the successful resection of a primary carcinoma of the ampulla of Vater within the past year, I was prompted to review the literature, from which it was possible to collect only eighty-five cases in which surgical extirpation of a primary periampullar carcinoma had been accomplished, with a mortality rate of 38 per cent. Most impressive in this review were the several hundred reported cases of primary periampullar carcinoma, in which the true pathology was disclosed only at necropsy; whereas the clinical diagnosis had most frequently been that of carcinoma of the head of the pancreas, and surgical exploration had not been instituted or only a palliative short-circuiting type of operation had been done. The important observation was the small size of the primary carcinoma, its usual resectability and the usual absence of metastases. In other words, the operability of primary carcinoma of the periampullary portion of the duodenum and the distal end of the common duct actually is high. It is worthy of emphasis that painless obstructive jaundice does not necessarily indicate inoperable malignant disease, and that such obstructive jaundice is not always due to carcinoma of the head of the pancreas, and that such obstructive jaundice justifies surgical exploration more frequently than has exploration been instituted in the past.

IN CONCLUSION

In general it may be stated that the better understanding in recent years of the pathology of biliary tract disease, the effect upon the liver in the presence of infection in or obstruction of the extrahepatic bile ducts, has influenced the physician to look to methods for the relief of obstruction early, before the well-known sequelae of jaundice occur. Methods are available for preoperative restoration of the glycogen reserve of the liver, the sustaining of hepatic function, and the reduction of the hemorrhagic tendency in obstructive jaundice. Such measures have materially increased the safety with which extensive surgical procedures, if need be, may be carried out in the presence of obstructive jaundice, and have made possible the applicability of certain surgical procedures heretofore attempted only with great risk and a minimum prospect of achieving a successful end-result.

561 Roosevelt Building.

DISCUSSION

Clarence G. Toland, M. D. (1930 Wilshire Boulevard, Los Angeles).—When we consider that approximately 50 per cent of all postoperative deaths in patients with obstructive jaundice are due to hemorrhage, we can readily appreciate the intense interest this subject holds for clinicians and laboratory workers alike.

Doctor Hunt very ably has pointed out the enormous amount of investigative work that has been directed at the solution of the baffling problem of hemorrhage in jaundice.

The methods that have been involved, attempting to predict the hemorrhagic tendency in these patients, are unquestionably of inestimable value, but still there has remained a gap of uncertainty. Patients with a normal bleeding and clotting time, and normal blood calcium determinations, at times unobtrusively develop a latent bleeding tendency. This becomes manifest following the shock of operation, presumably the result of liver damage, and death results from postoperative hemorrhage.

Quite recently Ivy and his coworkers have attempted to devise a bleeding-time method which, they believe, is a more accurate guide in determining the hemorrhagic tendency in jaundice.

They state that the tonicity of capillaries and arterioles, causing a retraction of their walls, is a major factor in the cessation of bleeding from small vessels. In the usual bleeding-time method (Dukes), this tonic action tends at times to show normal bleeding-time limits, although a latent hemorrhagic diathesis exists.

In the bleeding time as modified by Ivy, the factor of capillary tonus is eliminated by applying a sphygmomanometer cuff about the arm with a pressure of about 40 millimeters of mercury. The venous return is thus cut off, increasing the pressure in the capillaries and arterioles sufficiently to overcome the capillary tonus.

This method was used on a number of jaundiced cases, and it was found that often when the Dukes bleeding time was normal, the venous pressure bleeding time was definitely prolonged.

We are using the Ivy bleeding-time method on the jaundiced cases on my service at the Los Angeles County Hospital, but we have not as yet employed it often enough to arrive at definite conclusions. Certainly the method has merit, and only time can prove its efficiency.

⁂

Fred Fairchild, M.D. (Woodland Clinic, Woodland). The problems in relation to medical or surgical treatment of diseases of the biliary tract have in the past been troublesome indeed. They are still great, notwithstanding the advancements spoken of by Doctor Hunt, made during the past decade, in our understanding of the various disturbances of hepatic functions. There are still many unsolved problems.

But what we have learned by experiment and experience has been of inestimable value, and even though we may not be absolutely clear as to the scientific explanation for results under given conditions, the ability to get those results has greatly reduced our mortality tables and extended the field of success in surgery as applied to the biliary tract.

The proofs of the remarkable regenerative power of the liver cells gives us courage to carry on in those conditions which, a few years ago, we would have accepted as hopeless. The reward is often a restoration beyond our expectation.

As the speaker has said, the rôle of the liver in carbohydrate metabolism in maintenance of blood-sugar levels is vital, as is its relation to the storage of glycogen. The practical application of this knowledge is responsible for the attention now given to preoperative preparation and postoperative care. The importance of this attention cannot be overstressed. By introducing glucose directly into the blood stream, or under the skin, or by introducing sugar into the stomach, the substances lost through disease are largely restored. With this knowledge we proceed with surgery, having a justified expectation of success.

The discussion of those cases where death is preceded by symptoms leading to the conclusions that they had met "liver deaths" suggests, by their similarity, the complication so often seen in those patients where there is a normal secretion of bile, or bile and pancreatic juice, but for some mechanical reason there is a complete loss of the fluid. This fluid, being restored by its reintroduction into the stomach through a Levine tube has often, in our experience, promptly caused a disappearance of the alarming symptoms. The query comes as to whether the two processes are essentially the same: in the one case there is an absence of bile because it is not secreted; in the other it is absent by being discharged from the body before it is utilized.

The frequency with which stones are found in the hepatic or common duct, when there had been no history suggesting their presence in these locations, has been very properly stressed. Recognition of this condition is not always easy. Failure to note it is certainly one of the important causes for recurring symptoms. Removal subsequently is technically more difficult than would have been correction at the original operation.

⁂

Emmet Rixford, M. D. (1795 California Street, San Francisco).—I have read Doctor Hunt's paper carefully and with interest. My first impression is one of commendation, for it is a good thing to have such collective views presented to us once in a while to give us a comprehensive view of a situation, and to make us realize that there are numerous fields for further research, especially in pathologic physiology; but I was disappointed that the author dealt so exclusively with generalities and gave comparatively few facts, of which he doubtless possesses many and on which cautious practice might be based.

His conclusion, however, is practical, namely, that "better understanding in recent years of the pathology of biliary tract disease . . . has influenced the physician to look to methods for the relief of obstruction early"; and yet many of these things are not very new. Again, "Methods are available for preoperative restoration of the glycogen reserve of the liver, the sustaining of hepatic function, and the reduction of the hemorrhagic tendency in obstructive jaundice," etc.; but the author gives little information as to what these methods are so that others may profit by them.

The author has nothing to say about one of the most important causes of liver degeneration, namely, the effect of the anesthetic. Those of us who go back to the days of chloroform, or to the A. C. E. mixture, can remember case after case of so-called postoperative jaundice due, not to obstruction of the biliary ducts, but to destruction of the hepatic parenchyma by chloroform; the patient becoming increasingly agitated, deeply toxic, with rising fever, thready pulse, etc., till he finally succumbed, a real "liver death."

Ether, to be sure, is far safer as an anesthetic, but even it has a deleterious effect on the liver cells. In either case this effect may be diminished by giving food, especially starch and sugar preoperatively, and an abundance of fluids before, during and after a prolonged operation.

I can remember when it was considered essential to physic a patient before an operation, and further to deplete him by the omission of two, three, or even four meals, and to prepare the abdominal skin so conscientiously as to keep the patient awake most of the night before operation. Something of this is done today, and those who are thus conscientious in preparation of their patients for operation are the very ones who are most anxious postoperatively to feed the patient early, blaming the resultant gas pains on the patient's "habitus."

I quite agree that it is of value to administer sugar, but I also feel that it is quite as good practice to feed the patient liberally up to within twelve hours of the time of operation. For many years now it has been my practice to give the patient a good meal the night before operation, of course emphasizing starches.

I would suggest a word of caution in following the advice to open the abdomen *promptly* in cases of postoperative jaundice on the ground that it may be obstructive. If the jaundice happens to be due to damage to the parenchyma, further anesthetic is likely to assure the death. One should have very good reason to believe that the jaundice is obstructive, not destructive.

The author does not mention cholangitis with decomposition of the bile often characterized by the rapid formation of gall-stones, for which drainage is the one procedure we possess which is likely to relieve that condition, but, on the other hand, drainage of all the bile for a considerable period is in itself deleterious. In two such cases, in order to check rapidly developing emaciation, in desperation I sutured the drainage opening in the common duct; succeeding in one, failing in the other, for in this latter case a handful of irregular gall-stones would form in the duct in a day, almost under one's very eyes. Here drainage must be maintained, but the patient should be given bile by mouth.

From practical experience, I have come to the conclusion that the danger of bleeding in prolonged icterus is greatly exaggerated; for I have never seen a serious hemorrhage after operation on gall-bladder or ducts except where there was failure to secure proper operative hemostasis by ligation and suture.

As for carcinoma of the papilla causing jaundice, I recall that the late Robert Abbe of New York, in the early nineties, advocated its surgical removal as being eminently feasible if done reasonably early. I have performed the operation twice (one in 1899), although in both cases as a late procedure, successfully in one, the patient living two years before recurrence became manifest. She had been in absolute jaundice nine months under Christian Science instruction before coming for operation.

There is no question that stones in the common duct are more common than we used to think, so it is good advice to suggest that the common duct be opened in most cases of gall-stone disease, whether there is jaundice or not; but to avoid the infelicities of prolonged loss of all the bile, the duct should be closed and drainage made through the cystic duct, which should be preserved for this purpose (Halsted), provided, of course, that it seemed fairly certain that all the stones had been removed.

Small stones are more dangerous than large, as was pointed out by Opie years ago, for they favor passage of bile into the pancreatic duct, resulting too often in acute pancreatitis. In a recent case of fatal pancreatitis, autopsy showed bile sand scattered through the entire length of the pancreatic duct, even to the tail of the pancreas.

In this connection I cannot but question whether it is good practice to squeeze the gall-bladder in laparotomies to see whether it empties readily. I can conceive that with a small stone in the common duct, or a tight sphincter of Oddie or beginning carcinoma of the papilla, bile might be forced into the pancreas with disastrous results.

As Doctor Hunt says, if given time the liver will regenerate to a truly extraordinary extent; at least remaining parts of the liver will hypertrophy and preserve liver function. Many years ago I found at autopsy complete destruction of the right lobe of the liver with hypertrophy of the left lobe to the size of the entire liver in the normal individual. The man had had typhoid fever fourteen years previously, with phlebitis of the iliac veins and vena cava, with metastatic abscesses which gradually compressed the right lobe of the liver to a mere cicatricial shell. The hypertrophied left lobe carried on the liver function perfectly.

THE LURE OF MEDICAL HISTORY[*]

MR. JOHN HUNTER ON GENERATION[†] [‡]

By Arthur William Meyer, M.D.
Stanford University

III[**]

PRINCIPLES GOVERNING THE FORMATION OF ANIMALS

Under "Principles Governing the Formation of Animals," Hunter wrote: "The first process set on foot in the formation of an animal is so small, without that form which it afterwards gradually takes on, and its situation so obscure, that its operation cannot be traced, but by taking it up at stated times, when we find a new part either added or come to view, or a degree of perfecting having taken place in the part." (Essays and Observations, *i,* p. 203.) He believed that ". . . Nature gives to every order of animals a mode of reproduction peculiar to itself," and that "we are led to examine this process in those where its operations are most easily and certainly come at." He realized that ". . . hours make a difference in

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[*] A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany department, and its page number will be found on the front cover.

[†] Because John Hunter occupies so large a place in the development of surgery, it is commonly but erroneously assumed that he had the title of Doctor of Medicine.

[‡] From the department of anatomy, Stanford University Medical School, Stanford University.

[**] Part I of this paper was printed in the August issue of California and Western Medicine, page 145; Part II, in the September issue, page 222.

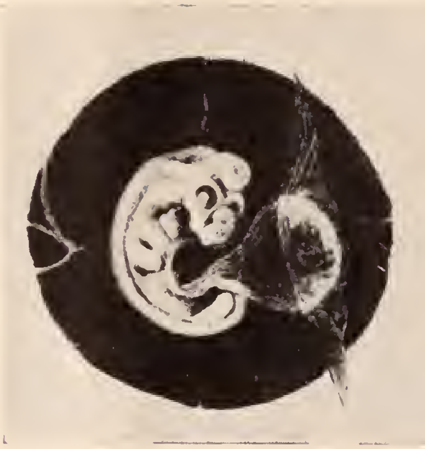

Fig. 4

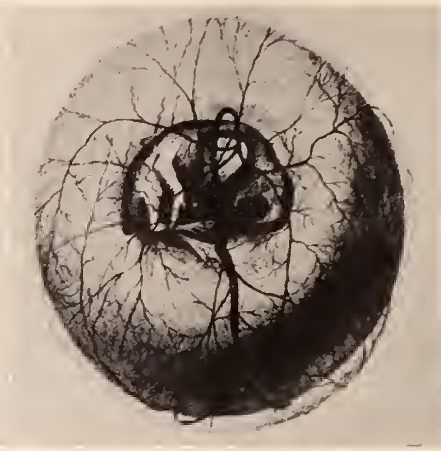

Fig. 5

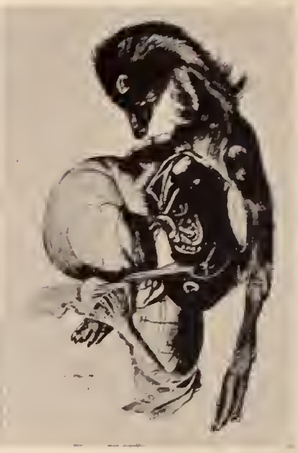

Fig. 6

Additional illustrations from the larger series of as yet unpublished drawings made for Hunter, to illustrate the development of the goose. These three are published for the first time through the courtesy and with the permission of Sir Halburt Waring, president of the Royal College of Surgeons of England.

the first days" of incubation, and that it hence "becomes necessary to examine in the night as well as in the day; by which reason, the latter brood in the summer is best adapted, having then short nights." (*Ibid.,* pp. 205-206.) Anyone who knows how tireless a worker Hunter was, and how late his hours were, will realize that he did not desire short nights in order to save himself inconvenience or interrupted sleep. We are likely to forget that the question of adequate illumination at night was a difficult one in that day, and that it, probably, was responsible for this advice.

I am not at all certain that Hunter realized that there is a difference in the size and appearance of the so-called cicatricula of the unfertilized and the fertilized goose-egg, for he wrote: "On one side of the yolk is a lighter spot than any of the other, which is called the 'cicatricula'; in this is the chick formed; but before incubation no traces of the embryo can be discovered, there being no difference between this part that is impregnated, and one not impregnated." (Essays and Observations, *i,* p. 201.) In commenting upon these words, Sir Richard Owen wrote: "This similarity can only be understood as referring to the absence of visible traces of the embryo." However, it seems to me that Hunter very plainly stated that differences between the "cicatriculae" in the impregnated and unimpregnated egg can only be brought out by incubation, and that is not the case. The only other words which bear upon this question are found in a discussion "Of the different kinds of female parts of generation commonly called 'ovaria,'" in which he wrote: "Probably the only part which constitutes the ovum in the unimpregnated state, is, in birds, the part which forms the cicatricula in the increased state, and that the increase is due to the addition of yolk only."

It is pertinent to recall in this connection that the nucleus of the hen ovum was discovered by Purkinje in 1825 and that for some time thereafter it was known as Purkinje's vesicle. Since Purkinje could not find this nucleus at a certain stage in the transit of the egg through the oviduct because it is in mitosis, he drew a wrong conclusion regarding its fate and function. There is, of course, no cicatricula in the sense of a cellular layer in an unfertilized egg, and the cytoplasm, which was previously taken for a cicatricula or blastodisc, is smaller than the blastodisc or blastoderm of the fertilized unincubated egg.

Hunter correctly stated that in the case of the incubated goose egg: "The chick at first, or in its . . . hour, is totally void of membrane, only having over it the external membrane of the yolk, which, when removed (which is easily done), the animal is perfectly bare.

"The first formation or expansion of its membranes are in pretty quick succession, and then go on together, some being sooner completed than others. The first expansion of parts would appear to be the formation of membranes, or changes in membranes naturally belonging to the egg.

"The first membrane that is formed is the membrana vitelli, which forms immediately under the proper membrane of the yolk; so it would appear that at this time the yolk had two membranes (but how far originally so I do not know); the external, a fine transparent one, and the other, more spongy, and having the power of becoming vascular." (Essays and Observations, *i,* p. 207.) (See Figures 4, 5, and 6.)

He also described the formation of the amnion, which had previously been recognized and, according to Owen, this membrane is represented in the "Physiological Catalogue," Volume V, Figure 7, Plate 69, and Figure 5, Plate 70. In this footnote Owen also spoke of ". . . the beautiful magnified view of the chick resting upon the yolk, in Plate 71, where *b,* the serous layer, is reflected from *d,* the vascular layer and mucous layers of the germinal membrane, or 'membrana vitelli' of Hunter. See also the mucous layer, *f,* Figure 5, Plate 75, reflected from *g,* the vascular layer of the germinal membrane or vitelline sac, in a further developed embryo." (*Ibid.*, p. 208.) (See Figures 7-10.)

Regarding what he called the vitelline membrane, that is the germinal membrane or blastoderm, Hunter thought that it ". . . would appear to have formed itself from the intestine; [and] if so, then it was prior to that part being visible; or it might be considered an expansion of, or a process from, the intestine over the yolk, and under its own proper membrane. That part next to the chick appears to divide into several laminae, or has the power of forming several; for we find, by the time the whole has formed such and such parts, that we can separate it into . . . laminae, which are seen in Plate —, Figures —. This membrane is extending itself over the yolk, expanding itself till its edges come beyond the largest diameter; and now, as it expands in length from the chick, it contracts at its edge, and at last encloses the whole yolk, forming on the opposite side something like a cicatrix, to which the last part of the slime adheres." (*Ibid.*)

When writing of the placenta in the monkey, Hunter recognized the amnion, chorion, decidua, and cord, which he said are very similar to those in man except that "The navel-string in the monkey is not proportionally so long as in the human, and is very much and very regularly twisted," and that ". . . the decidua is considerably thicker, especially where it passes between the uterus and the placenta." He added categorically, but erroneously: "There is no urachus, and of course no allantois; not even the small ligament that appears to be a drawing-in of the bladder at its attachment to the navel, the bladder here being rounded." (Animal Œconomy, p. 105.)

In describing the allantois, Hunter also spoke of it as the "third membrane." This, he said, contains urine and ". . . acts as the chorion or placenta, for it must be by this surface that the albumen is absorbed, and the chick supported." He rightly concluded that "The external part of this bag, which comes in contact with the shell, and as it enlarges lines more and more of it, till at last it lines it everywhere, I conceive to be the lungs, for it is the only part that comes in contact with the air; and on opening an egg pretty far gone, I find that the blood in the veins is scarlet, while it is of the modena colour in the arteries of the bag. Besides, it is much more vascular than any of the other membranes, which is just the reverse of what we should imagine, if it did not answer that purpose." In comment on these words, Owen said that it was not until 1834 that the need for oxygen on the part of the incubating egg was fully established by Schwann in a dissertation entitled, " 'De Necessitate Aëris Atmoscherici ad evolutionem Pulli in Ovo incubito,' " and he added: "From which it appears that the development of the embryo in the common fowl may go on without oxygen in the ordinary course to the fifteenth hour, and that the life of the germ is not destroyed till between the twenty-fourth and thirtieth hours, but that the presence of oxygen is essential to further development." (Essays and Observations, *i*, pp. 210-211.)

I feel quite certain that it would not be fair to infer from these words that Sir Richard thought that incubation could begin without any oxygen whatever, but that the oxygen contained in the air-space within the egg and that absorbed by the substance of the egg itself, would permit development for about fifteen hours. Owen pertinently added that there were facts which gave ". . . the highest probability to the opinion expressed in the text of the respiratory function of the allantois, and of the necessity of access of air to that membrane through the pores of the shell, for the development of the chick."

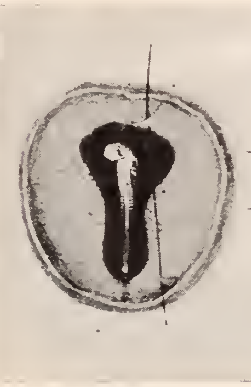

Fig. 7

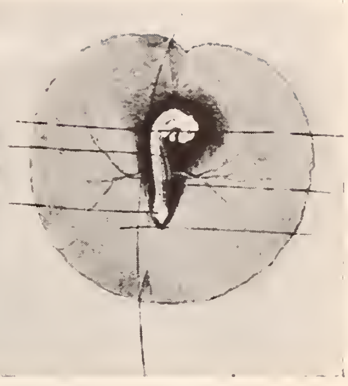

Fig. 8

Figs. 7, 8, 9 and 10.—Additional illustrations from the same series referred to in the quotation from Owen.

Fig. 7.—"In this figure the cephalic extremity, *i*, is turned back out of the primitive amniotic fossa."

Fig. 8.—"The embryo and germinal membrane at a more advanced stage, seen as resting upon the yolk, but less magnified."

It will be recalled that Harvey and others erroneously held that a fertilized egg does not putrefy as quickly as an unfertilized one because of the presence of the vital principle in the former. Hunter claimed to have found the fertilized egg more resistant to cold, but found that it will putrefy after freezing, that is, after death. While studying the blood and experimenting with the circulation of the chick, he noticed that the heart beats at a time when only colorless blood flows in the vessels of the vertebrate embryo, as it does permanently in that of the invertebrate. He erroneously called this colorless fluid serum and lymph, but showed that a portion of it was coagulable. Owen said that the observation of Hunter regarding the presence of colorless blood remained unnoticed; but was rediscovered by Delpech and Coste, and announced to the Paris Academy of Sciences in 1832.

According to Hunter, "The chick is formed first on its back, and then turns on its left side; and till this period the heart is not seen, or if it exists it must lie before the medulla, which will, from its transparency, render it obscure; for in this side view, we see, as it were, the profile, and from its lying in a transparent fluid, it can be seen moving in it even before there is any red blood." (Essays and Observations, *i*, p. 212.) One is puzzled very greatly, though, by Hunter's statement that "It may be necessary to remark, that, while the heart of the chick acts, the blood keeps red; but as soon as it ceases to act, the blood becomes almost immediately pale, and soon loses its red colour; therefore it is necessary to keep the

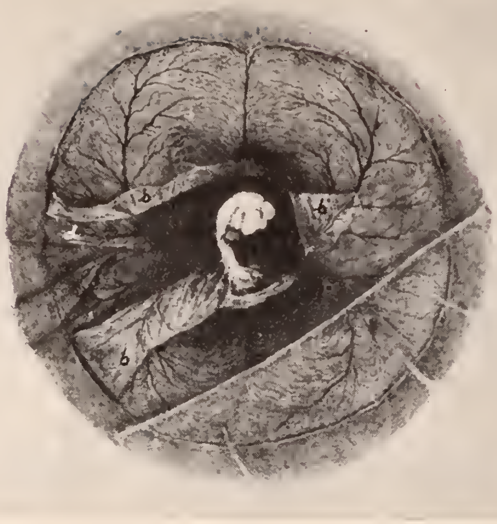

Fig. 9

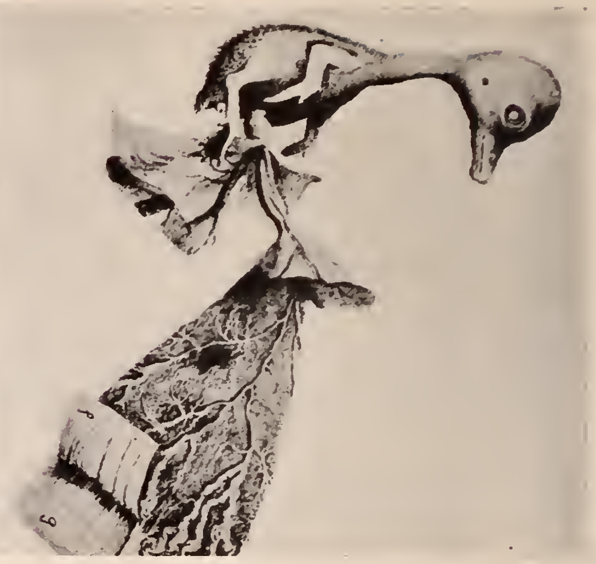

Fig. 10

Fig. 9.—"This plate exhibits a stage of development corresponding with that of the chick at the end of the third day."

Fig. 10.—A foetal goose somewhat after the twelfth day of incubation, "with the neck of the allantois, and the vitellicle dissected to show its structure." (Physiological Catalogue, 1840.)

animal alive as long as possible.*" (*Ibid.*, p. 206.) It likewise puzzles one how he could say that "In the beginning of the formation of the chick, there is great distinctness of parts, for they gradually take place one after another" (*Ibid.*, p. 207), unless by "parts" he meant the trunk, head and limbs, and by "beginning" did not mean the first steps in development.

He was familiar with the degeneration of the right oviduct in the goose, and with the formation of two kinds of down, and he mentioned the appearance of the "air-bags" in the abdomen. He also made observations on the development of the body wall, the eyelids, the nictitating membrane, and many other things. Upon careful consideration of Hunter's notes on the development of the goose (chick), one is reminded of Russell's statement that his feeling was for physiological rather than morphological things and, as Owen said, "The observations of Wolff on the development of the digestive organs of the chick, published in 1774,† are more numerous and precise than those of Hunter. Of the formation of the glands Hunter says nothing. Malpighi seems to have been the first who recognized the primitive form of the liver." (Essays and Observations, *i*, p. 214.)

When one considers that Hunter kept a flock of geese for fifteen years, using the eggs for purposes of study, the written results of his observations seem rather meager, but the unpublished illustrations are good and numerous. The briefness of the text may be due to his interrupted hours, to the fact that his interests were many-sided, and that he hence found it difficult to follow a particular subject intensively. Moreover, he seems to have had only a secondary interest in development *per se*, his main interest apparently lying in the other things included under the term "generation." Nevertheless, the old problem of the development of the eel also received his attention, and he persisted in his observations until he found and recognized its roe and had learned from others of the conduct of lampreys in spawning time. He also made observations on the generation of snails, mussels, oysters, moths and beetles, and spoke of the "Two-fold Birth of Flying Insects, . . . one from the egg, the other from the chrysalis. The exact parts formed in each state are not as yet known. One would naturally suppose that all the vital parts were formed in the first stage, and the wings, limbs, &c. in the second: the first stage brought all the vital parts to their full size; and as the insect must have an addition of parts, or become another animal, it must lie dormant till such parts are formed. If this had not been the case, then they must have been obliged to change their coats or skin as they grew; like the lobsters, &c." (Essays and Observations, *i*, p. 226.)

HUNTER'S INTEREST IN ABNORMAL DEVELOPMENT

Hunter was interested also in abnormal development and concluded that: "Monsters are not peculiar to animals: they are less so in them, perhaps, than in any species of matter. The vegetable [kingdom] abounds with monsters; and perhaps the uncommon formation of many crystals may be brought within the same species of production, and accounted for upon the same principle, viz., some influence interfering with the established law of regular formation." (Essays and Obser-

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"* Various were my attempts to effect this, but mostly in vain. I conceived that when I had just exposed the little animal but putting it into water, heated to about 204 degrees, just covering the egg, I might keep it alive by these means, and observe in the same chick the whole progress of growth; but it soon died; therefore, I was obliged to have recourse to a succession."—J. H. In the photostatic copies of the original manuscript of "The Progress and Peculiarities of the Chick," the above temperature, written in Hunter's own handwriting, appears as "104 degrees."

† Wolff's monograph first appeared in 1768, in Latin, and in German in 1812.

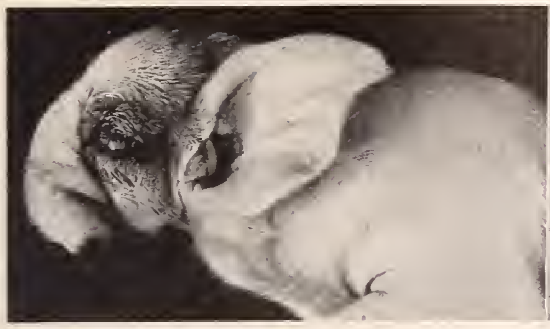

Fig. 11

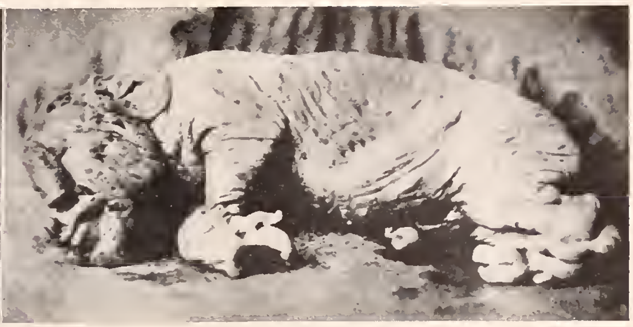

Fig. 12

Fig. 11.—Side view of the head of an excellent specimen of a false elephant pig, in which the abnormal development of the nose is not accompanied by cyclopia, but by almost complete failure of development of the mandible.

Fig. 12.—A reproduction of a photograph of a true elephant pig, accompanied by cyclopia, in which the proboscis representing the nose is attached above the eye, as is usual in this abnormality.

vations, *i*, p. 240.) When considering the question, "Are particular Species subject to peculiar Monstrosities?" Hunter wrote: "It is more than probable that monsters are common to every animal; at least it appears so by all those we are acquainted with. From the rarity of any peculiarity in the production of malformations of any particular kind of animals, one would be inclined to believe that there is but one principle governing these formations. However, there are some animals that have a species of malformation peculiar to themselves, viz. the elephant-pig, which I never saw belonging to any other animal." (*Ibid.*, p. 248.)

Shortly after I came to California, someone sent me a photograph of such a pig, hoping to be paid a very unusual price for what he regarded as an extremely rare malformation, and Sir Richard Owen pointed out that Sir Hans Sloane possessed such a specimen in the human subject. We now know that the condition is not extremely rare, being associated with cyclopia. (See Figs. 11-12.)

Perhaps the most perplexing case of abnormal development mentioned by Hunter is that of ". . . a young duck with a foot growing out of its head. (Hunt. Prep. Series of Monsters, No. 31.)" (*Ibid.*, p. 243), and it is curious that he thought that "America would seem to abound more in double-headed snakes than any other country. I have heard of several, by gentlemen who have been there, and I have two from that country in my possession; but I do not remember to have heard of any in other countries." This idea of Hunter's is confirmed by the testimony of his uncommonly faithful assistant and conservator, William Clift, who, in a footnote, wrote: "Mr. Rembrandt Peale of Philadelphia, when in London with the skeleton of the Mastodon in 1802, told me that double-headed snakes were so frequently met with in America, that they considered them as species, and not as monsters: but he did not recollect if they were similarly marked. There were several specimens in his father's museum at Philadelphia or New York." (*Ibid.*, p. 251.)

Hunter thought that ". . . in the cicatricula of the egg there never are formed two chickens; but, when a twin is produced, it is from two yolks: we have, however, monsters in chickens." (*Ibid.*, p. 244.) It may be recalled that Harvey had stated that "a single monstrous individual" rarely arises from a double-yolked egg. However, it has been known for a considerable period that, in the chick, double monsters occasionally arise from a single ovum. Aside from the older experiments of Panum (1860) and Dareste (1879), the occurrence of polyembryony in the chick was more recently established by the cases of Mitchell (1891), O'Donoghue (1910), Tannreuther (1919). Very recently Byerly and Olsen (1934) also reported that "Complete monovular twins and even triplets are occasionally found among chick embryos. Incomplete or anterior duplications are more frequent. Quantitative data on the incidence of duplication appear to be lacking" (p. 247). It is not clear from this report, however, whether any of the complete monovular twins or triplets reached nearly full development or were likely to do so. The establishment of identity would, to be sure, be convincing proof of the fact that twins were uniovular, but that might be a very difficult matter in some cases unless a comprehensive examination were made.

Riddle (1923) also reported the occurrence of monozygotic twinning in pigeons, having observed eight cases in 20,000 eggs, but it is not clear whether the twins had come to hatching and survived, for, as Mitchell suggested, such twins would have to develop from approximately half the normal amount of substance. They hence would be small and probably also weak, and might not be able to break the shell. And, if they hatched, they would also have to start life with only half as much yolk as usual, and would need food more urgently. It is possible that Hunter is correct and that monovular twins never hatch because, as Mitchell emphasized, "An avian, unlike a mammalian embryo, has only a limited source of organic nutrition, and the probable fate of a monster like this double embryo would be death, due to exhaustion of food supply before maturity had been reached" (p. 323).

"MONSTERS HEREDITARY"

Under "Monsters hereditary," Hunter wrote: "Monsters, or the deviations from the common course, or what may be called the original principles [types], in nature, have in them an hereditary principle. We may first observe that animals, not monsters in themselves, shall have the principle of producing monsters. I have seen three 'spinae bifidae' in the children of one family: in another family only having two children, both these had very large exostoses. I have seen two harelips in the children of the same parents." (Essays and Observations, *i,* p. 246.)

Sir Richard Owen, to whom we are indebted for so many learned and illuminating comments on Hunter's notes, thought that "It is evident, however . . . that he regarded the cause of congenital malformation as existing in the primordial germ" (Animal Œconomy, p. 81); but it seems to me that Hunter realized that monsters could result from influences from without as well as from within, for he said that ". . . most of the monsters are formed as early as we can observe any formation. However, this is not always the case; therefore we have monsters before birth and after. . . . The first class of monsters are those that are born so. Now let us inquire in what respect is an animal, some time before birth, similar to a vegetable, or to the parts of animals which have the power of regeneration after birth. We are to consider, first, that the life of an animal, before birth, is very different from what it is after. This difference in the principle of life [before birth] comes much nearer to vegetation, and most probably the further back we go, this similitude is the stronger. I fancy in this inquiry we must go as far back as the first formation of the animal, when the matter is moving into different forms, similar to the formation of a new layer or a new shoot in a vegetable; for in neither animal nor vegetable are the parts formed at once. A vegetable is, at all times, similar to the first formation of an animal, or to the new formation in a lizard's tail. These [*i. e.,* the growing branch or regenerated tail] meeting with obstructions to their [proper] forms readily admit of duplication; but I believe seldom of more." (*Ibid.,* p. 243.)

(To be continued)

CLINICAL NOTES AND CASE REPORTS

ABRUPTIO PLACENTAE

By Leon J. Tiber, Ph.D., M.D.
and
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Abruptio placentae was first recognized by Louise Bourgois in 1609. Rigby, in 1776, directed attention to this condition, which he designated as "Accidental Hemorrhage" in contradistinction to the inevitable bleeding in placentae praevia (Scott). Holmes, in 1901, called it "Ablatio placentae," while Kolisk, in 1903, applied the term "Infarctus hemorrhagicus uteri." De Lee names it "Abruptio placentae." Williams describes it as "Premature separation of the placenta." A severe form of abruptio placenta described by Couvelaire is known as "Uteroplacental apoplexy."

INCIDENCE OF PREMATURE SEPARATION OF THE PLACENTA

The incidence of premature separation of the placenta varies greatly in the statistical surveys of various authors. The range extends from one case, in 94 deliveries, to one case in each 894 deliveries. Holmes's series shows the occurrence as 1 in 200 cases; Polak as 1 in 305; Goethal as 1 in 94 cases. A representative figure of one case in 395 is obtained from a series of 100,000 labors in New York. Most writers agree that many cases go undiagnosed. According to Davis and McGee, partial separation occurred once in 357 deliveries, while complete separation occurred once in 770 deliveries; furthermore, one out of every three grave cases had uteroplacental apoplexy which was diagnosed only after section or postmortem examination.

Multiparity is generally thought to be a predisposing cause. Wing reports it as four to five times more frequent in multiparae than in primiparae. The incidence increases directly with the number of pregnancies. Fitzgibbon's series of premature separations has a 10 per cent incidence in primiparous women. In their respective studies, Brod and Holmes report 21 per cent and 19.2 per cent respectively, in primiparae. The highest occurrence, 36.6 per cent, is reported by Davis and McGee, who conclude "parity plays little rôle."

ETIOLOGY

Although the etiology of premature separation is as yet obscure, the preponderance of evidence points to toxemia as the most probable cause. Winter, in 1885, pointed out that ablatio placentae occurs with patients showing evidence of hypertension or albuminuria. In his publication in 1922, Prentiss Wilson states he believes that in about 90 per cent of cases there is either clinical or pathological evidence of toxemia; while Kellogg, in 1928, says, "The etiologic factor in toxemia and premature separation is sometimes the same." Williams believes it has a toxic origin—not the usual preëclamptic type, but a special type, the cause of which is still unknown. Young thought the infarcts so frequently found in placentae of toxemic patients produced the toxin by autolysis of the infarcts.

Hofbauer shows that histamin produces similar changes in the placentae of experimental animals. Morse, in 1918, produced hemorrhages in the uterus by excessive rotation of the organ. Browne, in 1928, after experimentally producing nephritis in animals, caused premature separation of the placentae in these animals by injecting them with B. pyocyaneus. Traumatism, jars, coitus, purges, coughing, twisting in bed, profound emotions, short umbilical cord, endometritis, multiple pregnancies, and hydramnions have all been advanced as causes for premature separations.

PATHOLOGY

The hemorrhage, resulting from complete or partial separation, may escape through the vagina (external hemorrhage), or it may be entirely retained within the uterus (concealed accidental hemorrhage). The former is more common, but fortunately, less dangerous than the latter. Williams states that he has seen but one case of concealed hemorrhage in 15,000 deliveries.

The separation is started by an effusion of blood into the decidua basalis, which splits and forms a decidual hematoma in the spongiosa. The collection of blood compresses and throws out of function the adjacent placental tissue. Since the uterus cannot contract sufficiently to compress the torn, bleeding vessels because it is still distended by products of gestation, the blood escapes between the membranes and uterine wall to appear per vagina (external hemorrhage).

Concealed hemorrhages occur when (1) the margins of the placenta remain adherent; (2) the membranes retain their attachment to the uterine wall even though the placenta is completely separated; (3) the blood breaks through into the amniotic cavity, and (4) when the head, acting as a tampon, is so accurately fitted in the lower segment that no fluid can get past it. Fortunately, in a majority of cases the membranes are gradually separated from the uterine wall, so that the blood appears externally, hastening diagnosis and treatment.

Grossly the uterus, and occasionally the tubes and ovaries, have a bluish or purplish color with a coppery sheen similar to a "twisted ovarian cyst." The broad ligaments are markedly hyperemic. The outermost layers of the myometrium show the densest and deepest discoloration from the bloody effusion. In milder cases there may be just subserous ecchymosis. Microscopically, there are platelet thrombi and endothelial injury in the uterine wall (Rosenfeld). The whole process suggests the action of a lytic agent, which affects both vascular endothelium and muscle cells alike (McGee and Davis). There is an extravasation of blood with edema and disassociation of muscle fibers. The extensive destruction of muscle tissue explains the failure of the uterus to contract in some cases, even though the organ has been thoroughly emptied.

Ablatio placentae usually occurs in the latter months of pregnancy, or it may appear during labor. Most of the reported cases occurred in the last trimester. Labor commences with the onset of symptoms, and the patient seeks medical aid because of the pains or because of vaginal bleeding, or both.

When the separation is partial there may be little or no pains, and constitutional symptoms may be slight or entirely absent. The hemorrhage may be profuse or merely evident because of spotting. In more serious cases the patient experiences severe abdominal pains, frank vaginal hemorrhage (if external), or sudden violent fetal movements. In the undiagnosed, untreated, or grave cases, the patient may be in profound shock which is all out of proportion to the amount of hemorrhage. Nausea and vomiting may be present, but are of little significance. Anemia of varying degrees of severity becomes progressively more acute.

SIGNS AND SYMPTOMS

The uterus is extremely tender. It may have a normal or hard, board-like feel. Cases are reported where the uterus is of a doughy, soft consistency. In certain instances the organ assumes a globular shape. The size, especially in the external type, is but slightly larger than would be expected for the particular month of pregnancy. Tetanic contractions of the uterus may result in the failure of labor to progress. Irregularity, marked change in rate, or absence of fetal tones indicate fetal asphyxia.

During labor a sudden hemorrhage, severe abdominal pains, and aberration of fetal heart sounds are pathognomonic of a premature separation. The patient may even go into shock.

One of the most serious complications of pregnancy is the concealed accidental hemorrhage. The picture is more or less constant in its manifestations. The uterus gradually or rapidly enlarges to a size much greater than corresponds to the month of pregnancy. It is exquisitely tender, smooth or irregular in contour, stone-like in consistency, and may show no rhythmic contractions. Severe abdominal pain is present, but is less marked than in the external hemorrhage type of ablatio. As in other types, anemia appears and shock may be evident. The fetus is invariably dead.

TREATMENT

There is a divergence of opinion as to treatment of ablatio placentae. Statistics indicate that conservative treatment gives the lowest mortality figures. In his publication in 1931, Kornfeld especially demonstrates that conservative treatment gives far better results than radical procedures. In Williams' series of fifty-seven cases only three deaths occurred, each following a section. Manual dilatation, version and extraction, and difficult forceps delivery are accompanied by an increased fetal and maternal mortality, more particularly in severe cases. The high operative mortality is due, no doubt, to the fact that the most serious cases, the poorest risks, are necessarily the ones subject to the most intensive treatment.

We must differentiate between mild and severe cases, which is not an easy task. Each case, however, must be considered individually, and treated as conditions indicate. Treatment must be instituted as soon as the diagnosis is made. The procedure depends upon certain factors: (1) the period of gestation; (2) the parity of the patient; (3) whether or not labor is in progress; (4) the condition of the membranes; (5) the condition and amount of dilatation of the cervix; (6) the degree of anemia; (7) the absence or presence of infection, and (8) the general condition of the patient.

In mild cases with good labor pains, little hemorrhage, and absence of fetal distress, conservative treatment is the one of choice. Pain is relieved by hypodermic injections of morphin, the membranes are ruptured, and the vagina packed with wet gauze. An abdominal binder is applied from above downward to control further uterine distension. If the presenting part is in the pelvis, and there is no bony disproportion, three minim doses of pituitary extract are given at twenty-minute intervals. The pulse and blood pressure are taken every half hour, while the hemoglobin and red count estimations are made at hourly intervals. In addition, the fundus is measured at one-half hour intervals. If the labor is progressing satisfactorily and the pulse, blood pressure and blood readings are constant, and the fundus shows no further distension, the patient is allowed to deliver spontaneously. Low forceps are often applied to hasten delivery.

Twenty units of pituitary extract are given as the head passes the vulvar ring. The placenta is expressed with the first contraction, or if there is a delay it is removed manually. Usually the uterus contracts satisfactorily and bleeding stops. Ergot is given before the patient leaves the delivery room. In certain instances where the uterus fails to contract it is packed with gauze. Transfusion, intravenous fluids, and other supportive treatment is given while preparation for hysterectomy is being made.

In severe cases shock and pain are combated by morphin, transfusions, intravenous fluids, heat, and other supportive measures; then, if dilatation is complete and labor may be terminated easily, the uterus is emptied from below; otherwise a cesarean section is indicated. In any event, the uterus must be emptied as promptly as possible whenever signs of acute hemorrhage (concealed or external) become evident. In most of these cases section offers the best chance because the fibers of the uterus are so frequently disorganized by the hemorrhage that when delivery is through the birth canal, postpartem hemorrhage due to atony of the uterus may cause a fatal result. An abdominal hysterectomy is then apt to be done too late.

Indications for cesarean section are as follows: (1) if labor has not begun; (2) if the cervix is undilated, even though labor is in progress; (3) the presence of any condition apt to cause long or difficult labor; (4) signs of progression of bleeding in spite of intensive conservative treatment; (5) if there is still chance to obtain a live baby without unnecessarily jeopardizing the life of the mother. In the last instance, cesarean section performed upon a mother in fairly good condition should have no more mortality than is incident to any laparotomy, and if practiced more often would materially lower the infant mortality. In addition, supravaginal hysterectomy could be done at the time if conditions so indicate, thus not taking any chances of postpartem hemorrhage as a result of uterine atony.

In the event the woman is in labor and the cervix is easily dilated manually, version and extraction or forceps delivery may be performed according to the station of the head and the ability of the accoucheur.

The prognosis in abruptio placentae is always serious. It is unfavorable for the mother and worse for the child. Maternal mortality resulting from hemorrhage, trauma, shock or sepsis varies greatly in the literature, being highest in the smaller series. Figures ranging from 7.5 to 50 per cent are reported. The fetal mortality, chiefly due to asphyxia, is from 60 to 95 per cent. Apparently the chances for both mother and fetus are better in the multiparae than in primiparae.

The influence of ablatio placentae upon subsequent labors has not been studied sufficiently to draw any definite conclusion. Rosenfeld, in 1933, reported that of five women experiencing premature separation of the placenta, four had subsequent normal deliveries; the remaining patient had a recurrence of the condition in the following pregnancy. He is of the opinion that a woman who once experienced a premature separation of the placenta need not necessarily be advised to avoid subsequent pregnancy, for her chances of having a normal pregnancy and labor are good.

REPORT OF CASES

A report of three cases occurring in private practice within a relatively short time is presented:

Case 1.—Mrs. S., age 27, grav. I, para. 0.

Past History.—Negative.

L. M. P.—October 29, 1931. Expect. August 5, 1932. Physical examination: Essentially negative. Measurements normal. Laboratory findings: Negative. No unusual symptoms during pregnancy.

P. I.—On August 2, 6.30 p. m., while patient was at dinner, she was suddenly seized with continuous cramping abdominal pains. Rest in bed was advised at once. In twenty minutes the pain became more severe, and the woman was sent to the hospital. On her way there she began to bleed profusely, vomited, and fainted.

Examination at the time revealed the bag of waters unruptured; F. H. T. 140 to 150, irregular and indistinct; head presenting at station 1 plus; cervix undilated; moderate hemorrhage; uterus globular, contracted, and extremely tender. It was difficult to outline fetal parts. Rectal examination increased the vaginal hemorrhage. The pains were still constant. After consultation, cesarean section was performed.

On laparotomy, free blood was found in the peritoneal cavity. Right half of the uterus was blackish red and numerous black areas which simulated thrombotic vessels were scattered throughout the involved side. Near the midline on the same side there was an area which appeared gangrenous. The mottled appearance extended to the lower uterine segment anteriorly and to the pelvic floor posteriorly. On incising the uterus it was found that the placenta had separated from the uterine wall. A clot, the size of a hand, was present between the placenta and uterine wall. Membranes and live fetus delivered. The uterus contracted satisfactorily upon injection of pituitrin intramuscularly. The uterus was packed and covered with hot saline packs during the closure of the uterine wound. The hemorrhagic areas became lighter in color, the mottled areas appeared paler, while the normal musculature became hyperemic; therefore, no hysterectomy was performed.

Postoperative course was uneventful.

* * *

Case 2.—Mrs. K., age 32, grav. I, para. 0.

Past History.—Usual childhood diseases. Tonsillectomy twice. Appendectomy, 1925.

L. M. P.—March 7, 1932; quickening on July 18; expect. December 12. Measurements: 22-26-30-18-19½ R.—19½ L.

Health During Pregnancy.—Much nausea and emesis; edema of extremities toward evening; constipation. On October 19, complained of pain in the left breast, but no pathology found. Laboratory findings: Negative.

P. I.—On November 20, 1932, the patient began to have shooting pains in the abdomen, which radiated to the left side of the chest and back, especially in the left subscapular region. Examination at the time showed nothing abnormal. Bed rest was advised. The following day the pains increased in severity, especially when the uterus would contract. Bed rest was continued and sedatives administered. Four days after the onset, at 7 p. m., while the patient was at dinner, she was seized with sudden, sharp, continuous abdominal pain which radiated to the left subscapular region. Thirty minutes later the woman began to have a show of blood and mucus per vagina. She was immediately hospitalized, and examination showed the uterus to be in tetanic contraction, globular in shape, and extremely tender. F. H. T. in L. L. Q. 124, very weak. B. O. W. intact. Cervix 50 per cent effaced and two centimeters dilated. There was profuse vaginal bleeding. The patient complained of severe constant abdominal pain.

On laparotomy it was noticed that the subcutaneous tissues were markedly edematous. Free fluid was found in the peritoneal cavity. Upon the lower left portion of the uterus and broad ligament there was a large, dark, hemorrhagic area 6 by 8 centimeters in diameter. On section of the uterus, 100 cubic centimeters of free blood escaped. Following the rupturing of the membranes, meconium-stained fluid gushed out. A live baby was delivered without delay. It was pale and nearly exsanguinated. About three-fourths of the placenta was separated from the uterine wall. After injection of pituitrin the uterus contracted satisfactorily, and the hemorrhagic areas cleared up. On closer inspection of the placenta, the dark pathologic area was seen to be almost necrotic. The remainder of the tissue was apparently normal.

The mother left the operating room in good condition. The baby was given 30 cubic centimeters of intramuscular blood soon after delivery because of hemorrhage from the bowel and gums. Mother and baby made an uneventful recovery.

⁂

Case 3.—Mrs. S., age 23, grav. I, para. 0.

Past History.—Childhood diseases. Tonsillectomy followed by "hemorrhage." Thinks she is a bleeder. Miscarriage at three months, one and one-half years ago.

L. M. P.—May 10, 1932, expect. February 13; quickening, September 22, 1932.

Physical Examination.—Essentially negative. Measurements normal. Blood pressure, 120/72.

Laboratory Findings.—Moderately heavy trace of albumin. Normal coagulation and bleeding time.

Health During Pregnancy.—Nausea and vomiting during first two months.

P. I.—On December 12, 1932, patient was in an automobile accident. She stated that she suffered no injury other than nervous shock. Soon after the accident, she experienced abdominal pain, vomiting, and slight vaginal bleeding. She was put to bed and sedatives given. The F. H. T. showed no abnormality. The bed rest was continued till day of delivery, February 22, 1932. Vaginal spotting was present during the course of observation.

Patient delivered normally, the first stage lasting twelve hours, the second one and one-half hours, and the third stage seven minutes. The placenta showed a large dark area involving one-third of the maternal surface, indicating a premature separation. Mother and baby left hospital in good condition in ten days.

COMMENT

The three cases present interesting and unusual observations. All three occurred in primiparae, two of whom were apparently normal, while the third showed evidence of toxemia. Cases 1 and 2 were seized with pains while at the dinner table, while Case 3 complained of symptoms following a nervous shock sustained in an automobile accident. Incidentally, Case 1 was sterile for four years, and Case 2 for ten years prior to the respective pregnancies reported.

One patient experienced subscapular pain occurring with the possible onset of the premature separation. We can only speculate as to the relationship between this pain and the placental separation. We can find no similar incident reported in the literature, but this finding may be of diagnostic significance.

CONCLUSIONS

1. Ablatio placentae can occur in patients who are apparently normal.
2. The premature separation may occur at any time without any demonstrable or predisposing cause.
3. The separation may be present for a considerable length of time without injury to mother or fetus, as demonstrated by Cases 2 and 3.
4. The amount of bleeding is no indication of the extent of the separation.
5. Cesarean section should be performed whenever there is an opportunity of saving the life of the baby without unnecessarily jeopardizing the life of the mother.

3875 Wilshire Boulevard.

A SIMPLE METHOD OF PREPARATION OF TISSUE FOR MICROSCOPIC EXAMINATION

By E. F. Cain, M.D.
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It is trite to repeat that early accurate diagnosis of cancer is essential to its control. In larger centers, where the services of a trained pathologist with his equipment are available, biopsies are readily done. This constitutes a major advantage which is not enjoyed by the "occasional" surgeon or the practitioner in a small center. He is forced, in most instances, to depend upon his judgment of the gross appearance of the tissue with which he is dealing.

A course, or courses, in biology have been made an essential part of our premedical education, and in the examination of plant tissues we were expected to learn to cut microscopic sections satisfactorily. During the past few months I have attempted to prepare sections from tissues removed at operation by employing a method similar to that used by technicians in botanical laboratories.

The equipment necessary is easily obtained: a tube of ethyl chlorid so constructed that a fine spray may be directed in a given direction; a large-bottle cork; a "straight blade" shaving razor; and staining solution. The surface of the cork is first well moistened with water. Ethyl chlorid spray is then directed on this surface, and continued intermittently until a thin frosted surface is obtained. On this a small thin portion of fresh tissue or of tissue prepared by heating for a few moments in hot dilute formaldehyd solution is placed. The spray is again directed on the surface of the tissue until a firm solid mass is obtained. With a well-sharpened razor, thin portions are quickly shaved off the surface of the frozen mass until a representative section is obtained. (The blade is moistened with soap solution or water.) With some care a very thin section can be cut. It can then be removed with the finger-tip into a shallow vessel containing one per cent sodium chlorid solution. From this it is quickly removed to another shallow vessel containing Unna's polychrome methylene blue solution or some modified stain. Here it remains ten to thirty seconds; from there it is removed with a small glass rod to another vessel containing one per cent sodium chlorid solution, where it is quickly washed, rolled out on a glass slide and covered with a cover slip. The tissue can then be examined under the low- and high-power magnifications of an ordinary microscope.

With practice, considerable dexterity will be gained, and reasonably satisfactory microscopic sections made. No originality is claimed for this method. It offers an easy scheme of examination, and should be of some advantage to the isolated surgeon. Most of us have spent weary hours in pathology and histology courses, familiarizing ourselves with the microscopic appearance of normal and diseased tissues. After graduation, very little of this training can be of use, because only for a few are the services of a large laboratory readily available.

Johnston Clinic.

MESENTERICO—PARIETAL HERNIA

REPORT OF CASE

By Frederick S. Foote, M.D.
San Francisco

Congenital defects of the intestinal tract, which result in obstruction, involve mainly the midgut. This embryologic division corresponds, in the fully developed bowel, to the portion between the duodenojejunal junction and the middle of the transverse colon. It is the portion of the bowel which is involved in rotation in the embryonic period to reach its final position in the fully developed abdominal cavity.

Obstructions result from three primary abnormalities of this process in the embryo. The first, and most common, is incomplete rotation, in which the cecum and appendix fail to descend to the right lower quadrant; may remain, in fact, in the upper abdomen or even in the left abdomen.

The second abnormality is reverse rotation, which results in the duodenum being placed anterior to the transverse colon, with obstruction of the colon. Volvulus of varying amounts of small bowel, as well as cecum and ascending colon, also occurs as a complication of reverse rotation.

The third anomaly is failure of the rotated bowel and its primitive mesentery to fuse to the posterior abdominal wall. This third condition predisposes to intussusception, volvulus and internal or mesenterico-parietal hernia.

These anomalies were pictured and described in detail by Dott[1] in 1923.

Mesenterico-parietal hernia, also known as duodenal hernia of Treitz,[2] is formed when a portion of small bowel becomes confined between this unfused primitive mesentery and the posterior abdominal wall. It is most likely to occur when rotation has been completed and when the large bowel has fused in the proper place, but when the primitive mesentery of the large and small bowel has failed to fuse. This condition leaves an opening through the mesentery of the small bowel either to right or left into a closed space, bounded posteriorly by the posterior abdominal wall; anteriorly by the primitive mesentery (two layers of peritoneum); laterally by large bowel and medially by the defective mesentery of the small bowel containing the superior mesenteric artery. The opening through the mesentery passes between the superior mesenteric artery above and the fixed point at which the terminal ileum and cecum are fused below.

Usually most of the small bowel is contained in the sac and is very often adherent within. Whether the small bowel is caught in this space during embryonic life or gains access to it after development is complete, is not clear. The fact that a number of them have manifested themselves by intestinal obstruction in new-born infants suggests that the former is true in at least some of the cases.

The clinical picture of those patients found to have such herniae during active life is essentially that of intestinal obstruction. In some instances a soft mass has been noted over the region of the sac. This mass, when noticed, has usually been mistaken for an enlarged spleen, for liver or for a true tumor.

A third group of mesenterico-parietal herniae are found at autopsy in patients dying of other causes. Most of these patients are not suspected of having herniae; nor have they symptoms of intestinal stasis. Such were the two cases recently reported by Longacre.[3] One of these patients, suffering from pulmonary tuberculosis, exhibited a mass in the left abdomen thought to be enlarged spleen. This mass was later shown at autopsy to be the hernial sac containing most of the small bowel. Longacre reviewed the literature, finding 140 cases reported to date. In 105 of these the hernia was on the left side, and in thirty-five on the right. Of the cases treated surgically, only five were diagnosed as internal hernia before operation.

REPORT OF CASE

The case which I wish to report is one of right-sided, mesenterico-parietal hernia. The patient, a male laundry foreman, forty-six years of age, was suffering from cramp-like abdominal pain, nausea and vomiting, and was referred by his physician with a diagnosis of intestinal obstruction. The onset, approximately sixty hours before being seen, was characterized by nausea and mild, cramp-like pain in the left upper abdomen. This was relieved at first by rest and abstinence from food. However, during the last twenty-four hours of the sixty he had abdominal distention, vomiting and severe left upper quadrant pain, radiating to the region of the umbilicus. Saline cathartics were vomited, and enemata resulted in expulsion of gas and a small amount of fecal material. A dose of castor oil accentuated the pain. These measures were taken of his own accord. In the past he had never had serious trouble. He remembered that once or

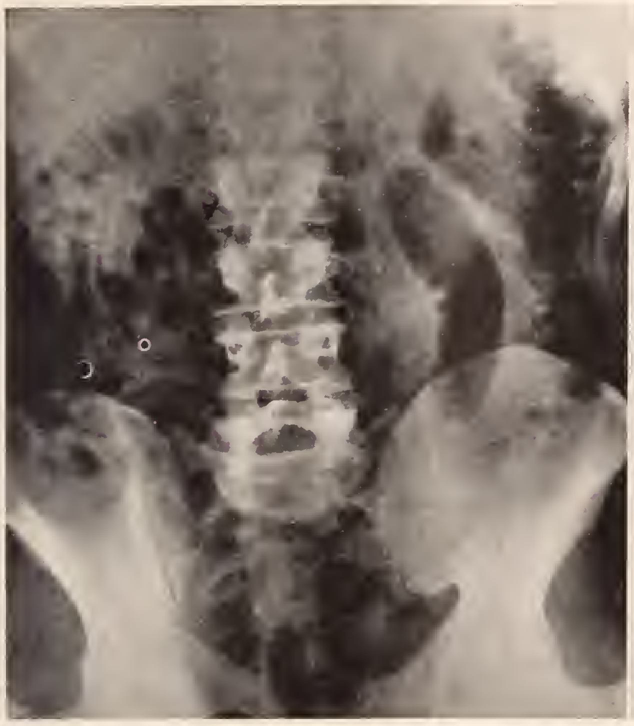

Fig. 1

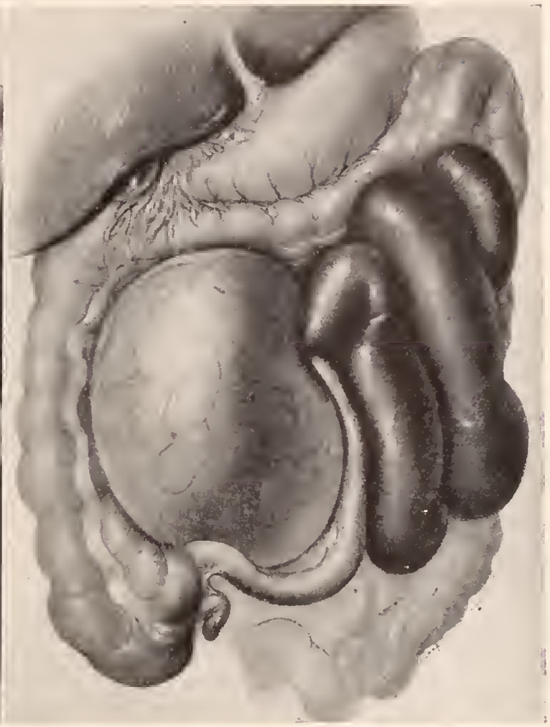

Fig. 2

Fig. 1.—Plain plate of the abdomen, taken with the patient in the upright position. The dilated loops of small bowel are shown in the left upper quadrant.

Fig. 2.—Right sided mesenterico-parietal hernia with obstruction. The obstructed bowel is shown in the left abdomen, while the collapsed loops of small bowel may be seen through the transparent wall of sac in the right abdomen.

twice a year, following extra hard work or a heavy meal, he had had abdominal cramps, which were relieved by rest, abstinence from food, and a cathartic.

Physical examination revealed no abnormalities other than those of the abdomen. Here was a definite, localized distention confined to the left upper quadrant. This area was tympanitic, with no localized dullness, no succussion splash. Peristalsis was audible, but not excessive. Pressure over the area caused pain in the region of the umbilicus.

Rectal examination revealed no masses and no blood. There was no blood in the vomitus. The leukocyte count was slightly elevated. The urine was normal except for increased concentration. His temperature was normal.

A plain x-ray picture of the abdomen, showing dilated loops of small bowel in the left upper quadrant is reproduced here (Fig. 1). There were no fluid levels in these loops. The diaphragm appeared intact throughout.

The abdomen was explored, under ether anesthesia, through a left upper rectus incision. There was a small amount of free, slightly turbid fluid. Three dilated bluish loops of proximal jejunum were exposed immediately beneath the incision. In the right abdomen many collapsed loops of small bowel could be seen confined beneath a transparent membrane. The normal omentum and transverse colon overlay these. The dividing line between the dilated bowel on the left and collapsed bowel on the right was the mesentery of the small bowel. The most dilated loop was followed with the finger to the root of the mesentery, where gentle traction suddenly released it. The collapsed bowel then followed this loop out through an opening in the mesentery. Content of obstructed loop readily flowed past the point of obstruction into collapsed loops. The point of constriction was due to outside pressure by the neck of the sac. It was approximately one meter from Treitz's ligament. The rest of the small bowel, with the exception of about 20 centimeters of the terminal ileum, was within the sac. The ileum was adherent to the neck of the sac at the point of emergence. Otherwise it was quite free and easily delivered from the sac. After the sac was emptied, the neck was found to be six centimeters in diameter, and placed four centimeters below the upper extent of the mesentery. The part of the mesentery above the neck was very thick and contained the superior mesenteric artery. The cecum and colon were fixed in normal position. The sigmoid was not especially redundant. The appendix was in normal position. There was no Meckel's diverticulum. The course of the blood supply to the terminal ileum and cecum was not determined, but the vessels did not course over the surface of the sac. The position and fixity of the spleen was not noted.

The drawing on Plate 2 shows the condition. It was drawn by the artist, from my description and from the x-rays (Fig. 2).

After the bowel was freed, the opening into the sac was closed with interrupted sutures of silk. The wound was closed with catgut.

No cultures were taken of the peritoneal fluid, but a colon bacillus infection of the subcutaneous fat of the wound probably had its origin from this fluid or from the surfaces of the badly distended bowel.

Postoperatively, for three days the patient suffered from generalized abdominal distention, which then subsided. The infected wound was healed at the end of three weeks, with the exception of a small area of superficial granulation tissue, and the patient was able to go home.

It is now six months since operation, and during this time the patient has resumed his occupation and has had no further difficulty.

490 Post Street.

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BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

RELIEF OF PAIN BY SURGICAL MEASURES

I. PATHOLOGY

Cyril B. Courville, M.D. (College of Medical Evangelists, Los Angeles).—While most operative procedures are performed with the object in mind of relieving pain or discomfort, those measures directed *solely* at the relief of pain occupy a much more limited field. Pain in such cases should have certain characteristics: it should be localized or at least regionalized, must be severe and persistent, and not be amenable to other forms of therapy. Operative procedures, in these instances, have for their object the restoration of the peace of mind, the maintenance of health and the return of the patient to as nearly his normal activity as possible.

The pathology of pain in this rather varied group of conditions is too large a field to cover in any short discussion of the subject. From the standpoint of convenience, however, the lesions which cause pain may be divided into three groups: (1) Recognizable lesions, which affect the sensory nerves themselves. (2) Recognizable lesions, not primarily of the nerves but which cannot be removed or corrected by other measures. (3) Diseases of nerves whose actual cause is unknown and for which no other form of therapy is of value.

Group 1. In this group there are a wide variety of lesions which may affect the sensory nerves and cause severe pain. Perhaps the most important group are tumors of the nerves themselves, either arising from the sheaths of peripheral nerves as a part of von Recklinghausen's disease, or from roots of sensory, cranial nerves, such as neurofibromas of the fifth, eighth (with pressure on the fifth), ninth cranial nerves, or the sensory roots of the spinal nerves. Amputation neuromas also belong in this class. Cervical rib may likewise be included as one of these lesions which affect nerves directly. It must be remembered, however, that not all diseases affecting sensory nerves and that may cause prolonged, severe pain, belong to the surgical group. For example, many cases of neuritis are amenable to other forms of therapy. This is also true of most instances of radiculitis, such as is caused by osteo-arthritis of the spine. One interesting feature about some of the lesions in this first group, notably tumors of the sensory roots as found in the spinal canal or cranial cavity, is that the cause of the pain may not be recognized until the operation is performed for the relief of pain; and then the tumor is unexpectedly exposed by the surgical procedure.

Group 2. The most important diseases which cause pain in this second group, in which the cause is recognized but cannot be corrected by other measures, are tabes dorsalis and inoperable carcinoma. The pain and distress of dysmenorrhea and the pain resulting from certain diseases of the bladder may also be included. Surgery is also performed in certain vascular lesions, such as thrombo-angiitis and Raynaud's diseases, to relieve pain as well as to correct or prevent other serious difficulties. It would be to no profit, were it possible, to discuss the pathology of the varied lesions which belong to this group. Perhaps of greatest importance in this connection is a discussion of the possible mechanisms by which pain is produced in inoperable carcinoma. Pain may be produced directly or indirectly. In superficial carcinomas, pain seems to be due to exposure of the terminations of the pain fibers, or by compression of the nerve endings by the tumor or its attendant edema. On the other hand, pain which is produced by carcinomas in the region of the large nerves or trunks is usually due to pressure of the bony-hard tumor masses on these trunks. At times there may be an actual infiltration of the sheaths of the nerves producing a carcinomatous neuritis. Pain may also be produced in an *indirect* way by production of marked edema, as of the arm in carcinoma of the breast, or collapse of vertebrae, as occurs in metastatic carcinoma of the spine. These secondary causes of pain are usually amenable to other forms of treatment and are not usually an indication for surgical procedures on the nervous system. Pain of tabes dorsalis sometimes requires surgical methods of relief. In this case pain is produced by an inflammatory process affecting the sensory roots. Surgical measures are not always indicated, because tabetic pains are frequently self-limited, and will disappear of themselves in most cases after proper treatment and on elapse of time.

Group 3. It is in this group that the surgical measures directed to the relief of pain have attained their greatest success since there are no other measures that are effective. This group is composed essentially of the *neuralgias* which affect particularly the fifth and ninth cranial nerves and the sciatic nerve—more rarely others, as the suboccipital nerve. The actual pathology in this condition is not known. In some clinics, where many hundreds of sections of nerves have been examined, no characteristic lesions have been found. This is true in my own experience: that in examination of sections of nerves, as of the Gasserian ganglion, removed for trigeminal neuralgia, I have failed to find any evidence of any abnormalities. The pain in these cases is evidently due to some disturbance of function which makes these nerves unusually sensitive to ordinary stimuli.

In every case, attempt should be made to classify the pain from the standpoint of its pathology, in order to intelligently plan the operative procedure.

Prognosis of Surgical Procedure for the Relief of Pain

The prognosis of a given surgical procedure which has for its primary object the relief of pain depends upon (1) the accuracy of the original diagnosis, (2) the adaptability of the operation to the particular situation, and (3) the thoroughness with which sensory fibers are sectioned.

Needless to say, accuracy in diagnosis is of prime importance. Pain which persists after the operation is frequently the result of an error in diagnosis. Such errors are usually due to too hasty a decision arrived at after an incomplete examination.

The adaptability of the procedure is likewise fundamental. For example, if a surgeon sectioned a group of sensory fibers which did not supply the affected region, or were only part of those coming from an affected lesion, pain would still persist. Similarly, to cut a nerve or a sensory tract when some other measure would relieve the pain as well as correct the original difficulty, would be most unfortunate. For example, if the sensory root of the trigeminal nerve should be sectioned through the temporal route, when the cause of the pain was a tumor in the cerebellopontile angle, the patient would still have the tumor. In considering the adaptability of a given procedure, the extent of the area involved, or the lesion giving rise to the pain, the patient's outlook as to life, and the inherent danger of the proposed operative procedure should be given careful consideration. It is very important that the surgeon who is to perform the operation critically analyze the situation confronting him before undertaking any procedure whose major object is to relieve pain.

The completeness of an operative interruption of the pain of the sensory fibers is, of course, essential. A given procedure may fail to relieve the pain because the nerves or pathways are incompletely sectioned. This may be due in some instances to the fact that the surgeon, through insufficient knowledge of the anatomy of the region, has failed to interrupt its sensory supply. It is also possible that the operative procedure has failed to entirely section the sensory fibers, as is possible in cordotomy. In this connection, the responsibility rests wholly on the surgeon, who must use sufficient judgment and care to see that the work is thoroughly and completely done.

In the last analysis, then, the prognosis in a given case rests to no small extent with the surgeon himself in his ability to accurately size up the situation, his knowledge of nerve supply, and finally of his technical skill in completely sectioning the affected nerves.

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II. DIAGNOSIS AND TREATMENT

Mark Albert Glaser, M.D. (727 W. Seventh Street, Los Angeles).—Pain is a form of consciousness characterized by a desire to escape or to avoid, and varies from a slight uneasiness to extreme distress or torture. It is dependent upon a derangement of functions, diseases or bodily injury. It must clearly be remembered that the threshold of pain differs in people. In addition to the pain that is relieved by surgical measures, there are pains of other types which surgery will not alleviate. Every medical means for relief, exclusive of narcotics, must first be exhausted before surgery is attempted. In questionable cases the use of spinal or local anesthesia is advised before the actual surgery is carried out. This subject is one of tremendous scope and importance, and in this limited résumé a sketchy review can only be presented. The surgery for the relief of pain is carried out by methods directed toward the cranial nerves, spinal cord and roots, subarachnoid space, the peripheral nerves, and the sympathetic system.

I. Cranial Nerves

Trigeminal Neuralgia.—Patients suffering from trigeminal neuralgia have severe attacks of sharp, shooting, lancinating pain in the face, confined entirely within the bounds of the fifth nerve distribution. These attacks last a few seconds, but may occur repeatedly over a period of several hours to several weeks. Between the attacks the patient is entirely pain-free. There are also periods of three to four months wherein greater susceptibility to the attacks exist. The pain is unilateral in distribution, rarely bilateral, and occurs equally in men and women. During the susceptible period the slightest contact, or even a draft of air may set off an attack. Trigger zones are frequently present, and there never is an area of anesthesia. The therapy consists of trichlorethylene inhalations, alcohol injection of the second and third division, and surgical avulsion of the first division, subtotal resection of the sensory root by the temporal route (preferable), and subtotal resection by the occipital route. The pain never subsides spontaneously.

Secondary Trigeminal Neuralgia.—Secondary trigeminal neuralgia may or may not assume the same clinical picture. Frequently the pain is more continuous, and the attacks are not so characteristic. The pain may be caused by inflammations about the Gasserian ganglion or sensory root, osteomyelitis, or herpes. Tumors of the ganglion, brain, or adjacent structures may also cause a neuralgia, but are usually associated with some form of anesthesia. Vascular lesions, such as aneurysm of the carotid and basilar vessels, angiomas, and thrombotic lesions, are less frequent causes. The superior cerebellar artery or the petrosal vein may directly press upon the sensory root and cause an indentation upon the nerve. Diseases, such as multiple sclerosis, syphilis, syringobulbia, dental pulp stone, impacted third molars, carcinoma, may also bring about this pain. Fracture of the skull and jaw, as well as congenital anomalies, have been reported as etiologic factors. The relief of pain is brought about by therapy directed toward the specific diseases, or by surgery upon the trigeminal nerve.

Facial Nerve Neuralgia.—Facial nerve neuralgia has been described rather infrequently, and is based upon the studies of Ramsey Hunt in cases of herpes and facial paralysis. He found the facial nerve sensory supply was situated in the tragus, antitragus, lobule, and deep in the ear. The pain clinically simulates trigeminal neuralgia, except the distribution differs. Taylor has relieved this pain by section of the seventh nerve and the nerve of Wrisburg. Recently, Reichert has described a type of pain similar in location, but relieved by section of the glossopharyngeal nerve. He felt that this was secondary to involvement of the tympanic plexus. In view of these two opinions, the choice of nerve severance is best determined by suboccipital exploration under local anesthesia and local stimulation of these respective nerves.

Glossopharyngeal Neuralgia. — Glossopharyngeal neuralgia consists of attacks of pain quite like that of trigeminal neuralgia, but situated at the base of the tongue, the tonsillar fossa with radiation into the neck and tympanum. Trigger zones are situated in the tonsillar fossa. The pain is relieved by intracranial section of the glossopharyngeal nerve.

Ménière's Syndrome. — Ménière's syndrome is diagnosed by ringing in the ears, gradual onset of deafness, and in additional attacks of nausea, vomiting and dizziness, of such a great degree and frequency that the patient is utterly incapacitated. The site of the lesion causing Ménière's disease is thought to be in the auditory nerve and not in the end organ. The etiology is obscure. A medical treatment, consisting of a sodium-free diet with the use of ammonium chlorid, has been recommended recently, while surgical treatment has been confined to total or subtotal section of the eighth nerve.

Vagus Neuralgia.—Vagus neuralgia most commonly is referred to the superior laryngeal branch and is caused by a tuberculous laryngitis. Pain on swallowing, as well as hoarseness, are diagnostic criteria. Relief is readily obtained by alcohol injection or surgical section of this branch. Deep-seated ear pain frequently present in carcinoma of the face has been reported relieved by intracranial section of the vagus nerve. Recently anatomical studies tend to show that the vagus supplies sensory fibers to the cranial sympathetic. Section of the vagus nerve, in addition to other methods of surgery, has relieved atypical neuralgia. These last indications for section of the vagus nerve are more academic than practical, and further research must be carried out before the method may be established.

Spinal Accessory Nerve.—The spinal accessory nerve has been held practically responsible for spasmodic torticollis. This disease begins rather insidiously with a stiffness or drawing sensation of the neck; later a pulling of the head to one side is noted. The spasm eventually becomes uncontrollable, continuous and painful. The etiology is obscure, and numerous theories have been offered. The treatment consists of bilateral intradural section of the first three anterior and posterior cervical nerve roots, and the spinal portion of the accessory nerve bilaterally.

II. Spinal Cord and Roots

Chordotomy.—Chordotomy is an incision into the anterior lateral columns of the spinal cord, and is best performed at the middorsal region. This operation was first suggested by Spiller, and popularized by Martin and Frazier. Since the fibers entering the cord do not cross until they ascend several segments in the gray matter of the same side, the operation must be performed at a level at least five segments above the segmental level of the pain. If the pain is unilateral, the contralateral tracts must be sectioned; whereas if the pain is bilateral both tracts must be incised. The theoretical high level is about the sixth cervical segment, because of the possibility of phrenic nerve complications. Operations, however, have been successfully performed at a higher level. It is believed by some observers that the gray matter must be incised in order to relieve visceral pain. This operation has been successfully performed for the relief of pain in the leg, trunk and pelvis; for inoperable carcinoma of the pelvic, abdominal organs, and spine; post-traumatic root pains from gunshot wounds, gastric crises and other tabetic pains, postmyelitic root pains, and inoperable tumors of the spinal cord.

Rhizotomy.—Rhizotomy was first suggested by Abbey in 1882 for the relief of neuralgia of the brachial plexus, tumors and other segmental pains, as well as occipital neuralgias. This operation has been used more frequently in the cervical region for the relief of pain, secondary to carcinoma, because of the dangers of cordotomy. As a whole, the results have not been as classical as the original observers had hoped. In many cases the pain was not relieved. Complete anesthesia is not obtained because of the overlapping of nerve roots. Usually five laminae are removed and six roots are sectioned. In addition to pain, temperature, touch and position sense are lost. More recently Davis was of the opinion that rhizotomy failed in its purpose because insufficient roots were severed, and he advised the cutting of at least six to eight. He has been successful in obtaining relief for angina pectoris and visceral pain.

Myelotomy. — Myelotomy was first introduced by Putnam in 1934. Pain in the upper cervical region can usually be relieved by rhizotomy. Pain, however, in the arms and shoulders is rather difficult to relieve because of the dangers of a high chorodotomy, and the fact that the sectioning of sufficient roots leaves the arm useless. For this reason it was suggested that a section of the pain fibers, as they crossed in the decussation, about the central canal would relieve this pain very much as a syringomyelia. This procedure was carried out with but one death in three cases. Additional case reports, with further refinement of technique, are necessary before this procedure should be popularized.

III. Subarachnoid Therapy

Air Injections. — Air injected into the spinal canal by the lumbar route, with an equal amount of spinal fluid withdrawn, is known as encephalography. From eighty to several hundred cubic centimeters of fluid have been removed with an equal displacement of air. This method has been successfully utilized for the relief of post-traumatic headaches and convulsive states. Encephalography is of extreme diagnostic importance in the differentiation of surgical from non-surgical lesions of the brain, as well as to establish a pathologic diagnosis in obscure neurologic conditions.

Alcohol Injections.—Alcohol was first injected via lumbar puncture by Dogliotti in 1930. He introduced from 0.2 to 0.8 cubic centimeter of pure alcohol in the spinal subarachnoid space and obtained relief from pain situated in the lumbar and thoracic region. He has reported success in cases of radiculitis, sciatica, intercostal neuralgias, tabetic crises, and all types of lumbar sacral pain, such as relieved by chordotomy. Pain which has been relieved by sympathetic surgery has also improved following this procedure. It might be necessary to carry out more than one injection, but no cases of severe motor symptoms were reported. This method, radical as it may seem, has proved quite successful in my own experience.

IV. Epidural Injections

Normal saline, antipyrene, novocain, and other solutions have been injected through the sacral coccygeal foramin for the relief of sciatica, coccydynia, and other pains. It has also been used as an anesthetic for surgical procedures.

V. Peripheral Nerves

Peripheral Neuritis. — Peripheral neuritis may be caused by exogenous toxins, such as lead, carbon monoxid, Jamaica ginger, etc.; endogenous toxins, such as diabetes, leukemia, etc.; infections, diphtheria, typhoid, syphilis, cachetic states, and tumors. The attack upon the peripheral nerve consists of temporary novocain injections, the use of alcohol and other chemicals for a longer period of time, evulsion, crushing of the nerve, and permanent neurectomy.

Occipital Neuralgia. — Occipital neuralgia is confined to the back of the neck and occipital region, and at times may be of such severity and persistence that surgery is necessary. This neuralgia may be of a primary nature or secondary to metastatic growths. Relief has been obtained by rhizotomy, excision of the spinal ganglion and section of the occipital nerves peripherally.

Brachial Plexus Neuralgia. — Brachial plexus neuralgia has been relieved by the introduction of 20 per cent alcohol into the brachial plexus. With this low percentage of alcohol, the motor tracts are not permanently affected. Rarely is neuralgia of the brachial plexus of such a severe degree that surgery becomes necessary. Cervical rib, or ribs, are probably the most common cause for brachial neuritis. In addition to severe pain, circulatory motor and sensory signs are present. Muscle and rib resection readily relieve the pain.

Intercostal Neuralgia.—Intercostal neuralgia is secondary to numerous causes, and is readily relieved by resection of the nerve, or injection of novocain and alcohol. The herpetic neuralgias are not always relieved by this method and in obstinate cases subarachnoid alcohol should be attempted. Twelfth intercostal nerve neuralgia has been reported following major operations upon the kidney. This pain closely resembles uteral colic, and is caused by injury or adhesions of the nerve. Hyperalgesia is usually present in the sensory distribution and the pain is confined to the thigh, groin, and loin. It is continuous in duration and is readily relieved by nerve resection.

Sciatica.—Sciatica may be a symptom of constitutional or systemic disease, of tumor or inflammation of the spinal cord or nerves, of derangement or inflammatory reactions about the lumbar vertebrae, intervertebral foramin, sacroiliac joint, or the result of posture. There are other cases where no definite etiology may be determined. When all other methods of treatment have proved futile, direct injection into the nerve with various solutions, such as antipyrin, quinin, or weak solutions of alcohol, have been recommended. There is some discussion as to whether the nerve should be injected at the notch, and Labat and Greene, by the use of an electrical percussion hammer, have been able to single out the component roots favorable for injection. Epidural injections and subarachnoid alcohol have also been advised. Exposure of the sciatic nerve by surgical means with the separation of adhesions about the nerve and nerve fibers has been suggested by Babcock. Before any of these methods should be attempted, all medical measures should be exhausted. Successful relief of sciatica has been obtained in all of the above methods, and the choice is dependent upon each particular case. It may be necessary to use one, or all of these methods before relief results.

Sensory Nerves of the Perineum. — Sensory nerves of the perineum have been sectioned for certain irritative and painful lesions of the female genitalia. These conditions are associated with kraurosis, leukoplakic vulvitis and pruritus of the vulva with or without lichenification. The superficial branches of the perineal nerves, the pudendal branches of the small sciatic nerves and, if necessary, the dorsal nerves of the clitoris are sectioned.

Meralgia Paresthetica. — Meralgia paresthetica without doubt is due to a neuritis of the external cutaneous nerve of the thigh. The pain is burning, tingling, sticking, annoying rather than acute, and at times is incapacitating. It is present upon standing or walking, and is relieved by lying down. There may be a dissociation of sensation, and hyperesthesia precedes the anesthesia; in some cases the pylomotor reflex may be lost, the skin becomes thickened, the hair falls out and painful nodules appear in the subcutaneous tissue. The exact etiology is unknown, though many causes have been attributed.

Coccygodynia.—Coccygodynia may be of a true or referred type, and is caused most frequently by trauma, though arthritis and radiculitis may play a part. The pain is usually constant and confined to the sacrum; aggravated by motion and the patient is unable to sit. Upon rectal palpation the coccyx is tender. In cases of trauma, dislocation of the coccyx may be noted upon x-ray. It must be remembered, however, that the normal coccyx may appear defective. Therapy consists of repeated epidural injections, subarachnoid alcohol and alcohol injection. If none of these methods relieve the pain, the question of resection of the coccyx must be considered. In spite of all these methods, and even with the resection of the coccyx, a cure is not always obtained and for this reason it is believed by some that the pain is psychogenic.

Pain in the Extremities.—Pain in the extremities, secondary to ulceration, which resist medical therapy or obliterative vascular disease and early gangrene, has been relieved by direct block of the peripheral nerves. The nerves which are blocked are first exposed surgically, and are the posterior tibial, deep and superficial peroneal, sural and internal saphenous.

Tumors.—Tumors, other peripheral nerves or traumatic neuromata, may occur anywhere along their respective courses, with subsequent pain. An enucleation of the pathology or, if necessary, resection of the nerve with end-to-end suture, is the method of choice.

VI. Sympathetic System

Since 1896, operations have been carried out upon the sympathetic system, primarily by such pioneers as Jaboulay, Jonnesco, Alexander, Franck Handley, and Leriche. These operations consisted, namely, of the removal of the sympathetic ganglion and periarterial sympathectomy. Royle and Hunter, in 1924, presented ramisectomy for the relief of spastic paralysis. Diez and Adson introduced ganglionectomy and trunk resection for vascular diseases. Since then the splanchnic nerves have been sectioned; operations upon the rami communicantes have been performed; the presacral nerves have been interrupted, and renal and suprarenal sympathectomy carried out. Resection of these nerves, as well as block, by paravertebral injections of alcohol and novocain have been utilized.

Migraine.—Migraine has been relieved by operations upon the inferior cervical and first thoracic ganglion. Again, the results are questionable.

Sphenopalatine and Vidian Neuralgia.—Sphenopalatine and vidian neuralgia have been treated by cocainization, alcohol injection, and removal of the sphenopalatine ganglion. If these methods failed, surgery of the sphenoidal sinus has been advised. As many of these chronic cases closely resemble, and probably are atypical facial neuralgia, relief has not always been secured.

Atypical Facial Neuralgia.—Atypical facial neuralgia is differentiated from trigeminal neuralgia in that the pain is persistent; there are never any pain-free intervals; the pain goes beyond the bounds of the trigeminal nerve, and is frequently bilateral. The continuous pain is accentuated by attacks of greater severity and lasting from several days to several weeks. The pain is difficult to describe, numerous adjectives being utilized by patients, and is deep-seated rather than superficial. It is more of a burning, aching, pressure type, rather than the acute lancinating variety. It is accentuated by general factors, such as head cold, excitement, etc., and is not relieved even by anesthesia of the given area. Sympathetic phenomena are frequently associated with this pain. Operation upon the cervical sympathetic vagus nerve, plus chordotomy, have been utilized, as well as paravertebral block. None of these measures have proven entirely satisfactory.

Angina Pectoris.—Angina pectoris has been relieved by paravertebral injection of the upper thoracic nerves, rhizotomy and operations upon the cervical thoracic sympathetic chain.

Vascular Diseases.—Vascular diseases, polyarthritis, Hirschsprung's disease, scleroderma, retinal angiospasm, post-traumatic painful osteoporosis, causalgia, angioneurosis, frost bite, Volkmann's contracture, neuritis, etc., have been relieved by ganglionectomy and trunk resection. In order to differentiate the spastic from occlusive type of vascular disease, numerous tests have been devised. By the use of typhoid vaccine, foreign protein, or simply wrapping the patient in a blanket, the temperature rise in the extremities has been measured by a thermocouple, and on the basis of the vasomotor index so established, surgery upon the sympathetic system has been indicated. Other methods of determining vasodilatation, such as nerve block, general anesthesia and spinal anesthesia (Naffziger), have been introduced. The simple emersion of the extremity in warm water, a study of the peripheral pulse volume and an oscillometric index have been utilized. Those cases of vascular disease of an occlusive nature have been treated by venous ligation. As previously mentioned, peripheral nerve block also has been used to relieve pain in the legs.

Visceral Pain.—Visceral pain, secondary to gallbladder, stomach and kidney, has been stopped by paravertebral block of the eighth to the twelfth thoracic vertebrae and splanchnic section. Peet has had excellent success in cases of essential hypertension by splanchnic section via the supradiaphragmatic route. Neuroramisectomy has been recommended for the gastric crises of tabes.

Pelvic neuralgias, dysmenorrhea, pain secondary to inoperable carcinoma of the cervix, and bladder pain of various causes have been relieved by section of the presacral nerves.

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III. SURGICAL PROCEDURES

Howard A. Brown, M. D. (384 Post Street, San Francisco).—A surprising number of surgical procedures have been employed in the relief of a variety of painful conditions. The constant advance in this field of surgery has afforded immeasurable relief to chronic sufferers heretofore dependent upon the constant use of narcotics.

Probably the most widely known operation of this type is the resection, in whole or in part, of the sensory root of the Gasserian ganglion in patients with major trigeminal neuralgia or tic douloureux. The most frequent operative approach is in the subtemporal region, where a small opening is made in the bone beneath the temporal muscle. An extradural advance mesially across the floor of the middle fossa leads directly to the Gasserian ganglion and its sensory root, which is divided. The motor root, lying directly behind the ganglion, can be spared in most instances, thus preserving the function of the muscles of mastication. Contrary to a frequent misconception, this operation does not produce facial paralysis, but results only in a complete anesthesia of one side of the face with immediate and entire relief of pain.

Alcohol injection of the peripheral branches of the fifth nerve may be resorted to in some instances; even surgical division of such branches as the supra-orbital, infra-orbital or inferior dental nerve is of value in cases in which the pain is well localized. These peripheral procedures, however, afford only temporary relief from pain which returns as regeneration of these nerves takes place. No such regeneration occurs after interruption of the sensory root of the ganglion, so that the relief of pain is permanent. Gasserian ganglionectomy is, at times, of great value in malignant growths about the tongue, lip and face, which are so frequently accompanied by severe pain. The production of anesthesia not only alleviates the pain, but also allows the attending physician to care for the surface lesions more rapidly and thoroughly without discomfort to the patient.

Glossopharyngeal neuralgia is of much less frequent occurrence, and the diagnosis is often missed. The operative treatment consists of the interruption of the glossopharyngeal nerve, which effects complete relief of pain. This procedure has been done by the extracranial as well as the intracranial approach, though the latter is the more satisfactory. The procedure is accomplished through a suboccipital opening with removal of a part of the occipital bone, exposure and elevation of the cerebellum and, finally, division of the glossopharyngeal nerve just before it leaves the cranial cavity. Following operation, the patients experience little or no difficulty in swallowing, and the patch of anesthesia in the nasopharynx and tonsillar fossa is not troublesome. This procedure also has been used for relief of pain in malignancies involving the pharynx, and the posterior one-third of the tongue.

Painful tics involving the facial muscles in convulsive, spasmodic contractions, result from certain disorders of the seventh cranial nerve. Relief may be effected in some instances by resection of small peripheral branches of the nerve, but in more severe cases resection of the entire trunk becomes necessary at its exit from the stylomastoid foramen. In these cases it is advisable to anastomose immediately the distal portion of the nerve with the hypoglossal or spinal accessory nerve, to provide for the possibility of some return of facial tone and movement at a later time.

Rhizotomy has been used for the relief of pain in several different conditions. After exposure of the spinal cord by laminectomy, the dorsal roots carrying sensation for the painful area are tied and cut just inside the dural covering of the cord. It is necessary to interrupt the roots supplying an area a short distance above and below the lesion, as well as those from the painful site itself, because of the considerable sensory overlap of these roots. The disadvantage of this procedure lies chiefly in the loss of all sensations to the affected part which, in the case of an extremity, is a great handicap. It has been used frequently in cases of malignancy, more particularly those about the neck and involving the brachial plexus. It has been of no real value in the relief of postherpetic pain or in the treatment of painful amputation stumps.

The operation of chordotomy is of more recent development than rhizotomy, and has been of much more value. It requires a laminectomy, with exposure of the spinal cord well above the site of pain; a small transverse incision is then made in the cord dividing the anterolateral tracts, which carry the sensations of pain and temperature from below. These are crossed fibers and, of course, must be divided on the side opposite to the area of pain. Frequently a bilateral chordotomy is advisable to insure complete relief of pain when one is dealing with abdominal or pelvic malignant growths. This procedure does not cause a loss of power or tactile sensation, affecting only the pain and temperature fibers, which is a distinct advantage over the results achieved by rhizotomy. When dealing with chronic pain of severe degree, the results of chordotomy have been much more satisfactory than have those of the peripheral interruption of nerve trunks. It has been successfully employed in various painful malignancies of the abdominal cavity, pelvis and rectum, as well as those involving the lower extremities. Gastric crises, painful amputation stumps, and the burning sensations occasionally present after injury to the spinal cord, frequently have been completely relieved by chordotomy. Its application to lesions of the chest and upper extremities has been limited because of the increased risk of the procedure in the cervical cord, although some cervical chordotomies without complication have been reported.

Recently an operation called myelotomy has been suggested for use in the cervical region. This consists of a midline section, paralleling the fibers of the cord and extending over a distance sufficient to include the affected segments. It has not had sufficient trial as yet to permit an estimate of its value.

Sympathectomies of various types have been employed for a variety of conditions, among which are found certain painful disorders. Interruption of the sympathetic chain in the abdominal region has been done by the transabdominal route, as well as by the lumbar extraperitoneal approach. Recently the transabdominal approach has been used more frequently. This consists of a midline exposure, retraction of the intestines, and incision of the posterior peritoneum over the sympathetic chain as it passes along the psoas muscles. The second, third, and fourth lumbar ganglia and communicating branches are completely removed, the procedure being unilateral or bilateral, as the situation demands. Dorsal ganglionectomy is accomplished through a posterior approach in the cervicodorsal region with removal of a small portion of the second rib just lateral to its vertebral attachment. The sympathetic chain is exposed along the costovertebral angle and the first and second thoracic ganglia, and their communications are removed. These procedures have been of value in the relief of pain associated with vascular disorders, such as Raynaud's and Buerger's diseases, in certain types of painful ulcers of the extremities, in angina pectoris, and in some types of arthritis. The relief of pain, of course, represents only one phase of the application of sympathectomy.

Periarterial sympathectomy, or the stripping of the sympathetic fibers from the large arteries, has been employed to relieve pain in causalgias and cases of arteriosclerotic gangrene, as well as in the vascular diseases mentioned above. The results have not been of uniform satisfaction, and the operation at present is not extensively used.

Neurectomy, or the interruption of various peripheral nerves, has been used to relieve pain in many conditions. I refer here particularly to a most distressing condition known as causalgia, often seen after trauma to peripheral nerves, and accompanied by terrific burning sensations over the course of the nerve. Neurectomies are used in some neuralgias, for pain associated with amputation stumps, in cases of meralgia paresthetica, and for certain painful malignancies. In some cases, immediate resuture following the division of the nerve is done when one is dealing with a combined motor and sensory nerve.

During recent years a syndrome of severe pain about the neck and shoulders, and often referred down the arm, has been receiving considerable attention. This condition amounts to a mechanical or irritative type of neuritis which, in some instances, is associated with a cervical rib, but in many cases no rib is present. For this reason the diagnosis is frequently overlooked when no cervical rib is found. The operative treatment consists of a division of the scalenus anticus muscle, freeing the brachial plexus from any impingement that a cervical rib or tense scalenus muscles may be producing. Relief of pain is striking and permanent in conditions of this kind.

The subarachnoid injection of alcohol for the relief of pain has been used for the past few years. This procedure has been utilized with some success in cases of pelvic malignancy, and in painful conditions affecting the lower extremities. It consists of a careful injection of from .5 to .75 of a cubic centimeter of absolute alcohol into the subarachnoid space through the lumbar interspaces, varying from the first to the fourth. The affected side is placed uppermost and the hips are slightly elevated, allowing the alcohol to float on the spinal fluid up around the nerve roots, where its action is predominantly on the sensory elements. Occasionally, transient disturbance in the bladder or slight motor disturbances have occurred, though these have cleared up rapidly in almost all instances.

Each patient presents an individual problem, and it is unwise to recommend any of these procedures routinely without careful study of the disease as well as the patient himself. In view of the constantly increasing number of measures which are available for the surgical relief of pain, such chronic severe pain which does not respond to ordinary therapy certainly requires a careful consideration of these measures.

Federal Food and Drug Administration.—Short weight is one of the commonest violations of the Food and Drug Act. Last month five interstate shippers of foods and stock feed were fined a total of more than $500 for this type of offense. . . .

Seventeen patent medicines bearing false and fraudulent medicinal claims were seized during July, the Administration reports. Their names and the label claims alleged by the Government to be unfounded are: "Atholin," a perfumed solution of benzoic acid, salicylic acid, boric acid, aluminum chlorid and thymol in alcohol in water, offered for pimples, acne, and eczema; "Dr. Ehrlich's Nerve Tonic and Sedative," composed of phenobarbital, sodium and ammonium bromids, and water, for restoring and strengthening the nervous system, to tone the stomach muscles, create vigorous appetite and proper digestion; "Dr. Ehrlich's Tonic and Blood Purifier," containing methenamin, iron, potassium iodid, plant extractives and syrup, for rheumatism, neuritis, backache, and as a blood purifier; "Dr. Ehrlich's Kidney and Bladder Medicine," containing methenamin, iron, laxatives and water, for kidney and bladder ailments; "Hem-O-Rem," containing plant extractives, alcohol and water, for hemorrhoids; "Dr. Hubbel's Formula," composed of alcohol, water, chloral hydrate, creosote, sulphuric acid and menthol; for loose teeth, toothache, sore and bleeding gums and gingivitis (the libel further charged a violation of the legal requirement to declare chloral hydrate and alcohol, the declaration being incorrect because understated in the former instance, and lacking in the latter); "Kelp-A-Malt," essentially kelp, sugar, malt extract, cocoa, salt and saccharin, for skin and stomach troubles, anemia, nervousness and women's ailments; "Moone's Emerald Oil," described as a germicide when in fact it was incapable of killing common germs, offered for varicose veins, varicose ulcers, toe itch, and muscle, joint and nerve conditions; "Nature's Vital Food," containing ground herbs, rhubarb, sarsaparilla, podophyllum mullein, senna, water and salicylic acid, for cancers, tumors, ulcers, boils, scrofula, syphilis and all diseases arising from impure blood; "Oceanic Vitex," essentially seaweed, for headache, neuralgia, neuritis, nervous prostration, low vitality, anemia, indigestion, liver and kidney troubles, glandular disturbances, goiter, asthma, eczema, low blood pressure, catarrh, colds and influenza; "Quan-Da-Sac," consisting of petrolatum, a coal tar product and a volatile oil such as camphor, for rheumatism, deep-seated inflammation, coughs, congestion, sores, lameness, lumbago, pleurisy, bronchitis, croup, quinsy, skin affections, neuralgia and boils; "Savoy Beef Iron and Wine," for debility, exhaustion and impoverishment of the blood; "Slim," containing dinitrophenol and labeled as a safe means of weight reduction, which was untrue; "Udga Tablets," composed of baking soda, bismuth, magnesia, starch and saccharin, for acidosis, gastritis, nausea, indigestion, stomach ulcers and acid dyspepsia; "Vegetrate," tablets consisting of calcium carbonate with small amounts of laxatives, vegetable extractives and vegetable substance, for hyperacidity and deficiency diseases; "Wag's Salve," composed of petrolatum, wintergreen oil and menthol, for croup, catarrh, pheumonia, tonsillitis, chest colds and sore feet; and "Wa-Hoo Bitters," containing plant extractives, gentian, Epsom salts, salicylic acid and water, for bowel, kidney and liver disorders.

A consignment of so-called "Epsom Compound Tablets" was seized because the product was found to depend for its laxative effect upon phenolphthalein (a coal-tar product) and aloes; and "Xlent Rubbing Alcohol" was libeled when analysis showed the product to contain isopropyl alcohol rather than grain alcohol. Other drugs seized included fifteen cylinders of substandard nitrous oxid (laughing gas), substandard tincture of aconite, short weight local anesthetics in ampoules, and a consignment of eight deteriorated pharmaceuticals shipped by a salvage drug dealer in Texas.

CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section (Adv. pages 2, 4 and 6).

CALIFORNIA MEDICAL ASSOCIATION

ROBERT A. PEERS..........President
EDWARD M. PALLETTE..........President-Elect
FREDERICK C. WARNSHUIS..........
Secretary-Treasurer and Associate Editor for California

STATE AND COUNTY SOCIETY ACTIVITIES

ADVERTISEMENTS

It is quite important that members be reminded from time to time regarding the necessity of patronizing the advertisers who contract for space in this your official publication. Were it not for this income your Publication Committee and editor would be unable to send you a journal of such outstanding value and merit as is California and Western Medicine. There is no other state journal that is comparable in size and content to this, your journal.

Your advertisers are firms that have reputations for fair dealing and their products are of merit and high quality. Everything else being equal they are entitled to your preference in placement of orders. The alphabetical index of advertisers is printed in each issue on page 8 of the front advertising section. Consult it.

Therefore, members are urged to deal with our advertisers and to respond to their solicitations. Additional support can be subscribed if members will ask the salesmen who call upon them whether their firm utilizes advertising space in your state journal. This coöperation is solicited from every member.

* * *

NARCOTIC LAW VIOLATIONS

An inspector of the Narcotic Enforcement Division has transmitted the following incidents:

An increasing number of physicians fail to observe the narcotic laws of the State when prescribing narcotics. Every licensed physician will find a copy of the law in the roster of the State Board of Medical Examiners. Five amendments were adopted by the last legislature.

Care is not being observed in writing prescriptions. There are physicians who will write prescriptions for narcotics for anybody and for any quantity.

Records are not being kept.

Addicts play upon the sympathy of a physician by means of many wiles and secure several prescriptions and then work another physician in the same manner.

Addicts have been given ten or twelve prescriptions and the physician fails to make a report.

Order-forms for stock supplies are given to addicts.

Prescriptions are written for fictitious persons at addresses that cannot be found.

A number of other infractions are related.

The enforcement division does not desire to work a hardship upon the profession, but it cannot condone or ignore flagrant violations. The Division inspectors feel that members of the profession should become fully informed as to the provisions of the law and be guided accordingly.

County societies might well invite these inspectors to address their county meetings in order that their members become enlightened as to their rights and limitations in prescribing narcotics.

YOU ARE THE CAUSE

"At regular intervals from varied sources comes the inquiry why 'something isn't done' about this or that. . . .

"Solutions are not born of the moment. Many problems will never be solved or adjusted until every doctor relinquishes the argumentative attitude for one of coöperative action and support.

"If you render services at a discount or a split of the regular fee; if you serve in a clinic or dispensary where persons able to pay receive free service; if you are filling out insurance certificates for no fee; if you are failing to practice preventive medicine and stand by while parents take their children to health clinics; if you neglect to cultivate and enlighten your senator and representative—if—well, if you fail to play an active part in your county society and your community you will find the answer is because of *you*. If all the 'you's' would rally in support of their county society, satisfactory solutions would be attained. Will 'you' get busy? Will 'you' go to work?"

The foregoing was recently printed in the San Diego County Medical Society Bulletin. It might be well for every county to repeat this in their bulletin. Likewise, remember:

"Now this is the law of the Jungle—as old and as
true as the sky!
And the wolf that shall keep it may prosper.
But the wolf that shall break it must die.
As the creeper that girdles the tree-trunk, the law
runneth forward and back.
For the strength of the Pack is the wolf, and the
strength of the wolf is the Pack."

* * *

ITEMS OF INTEREST

1. Minutes of the September Council meeting, contained in this issue.
2. Minutes of the Committee on Public Relations, contained in this issue.
3. College of Surgeons and Surgical Congress annual session in San Francisco, October 28 to November 1, 1935.
4. First Public Health Institute in Oakland, November 4 and 5.
5. Annual Conference of State Secretaries and Editors in Chicago, November 15 and 16.
6. Annual meeting of the Pacific Coast Obstetrical and Gynecologic Association meeting in Los Angeles, November 6-8.
7. Special Council meeting November 2 to consider hospital insurance.
8. Refer to the September issue for statement as to the Association's attitude in regard to x-ray and pathologic laboratories that are operated by hospitals.
9. Council requests that members submit to the State Secretary their opinions and recommendations in regard to a State policy and attitude toward a plan of hospital insurance under the provisions of Assembly Bill 246 that became a law on September 15. The Council will be guided at its meeting on November 2 by the wishes of the members.

* * *

WHAT'S DOING?

Answer to this question may be found in California and Western Medicine. Its editorials and departments transmit each month "What's doing." The minutes of the Council, Executive Committee, and of standing committees will inform the member as to the many activities that are sponsored by and that are the concern of this Association. Reports of county society meetings enlighten the reader as to what is being done in county organization. Your official publication is your source for authentic official information. Read it diligently every month.

* * *

STAND BY

In the early days of broadcasting, "Stand By, Please" was a frequent request as station operators manipulated their dials between program changes. "Stand By, Please" is the request that is now being broadcast to every member of our Association for the period that marks an epochal change in our program that is related to the public. In this interval, please do not dial around for other stations or programs.

The assurance is given that instructed committees, your Council and officers, are intently and intensely busy in formulating principles, policies, and programs. Our organization is not a statical organization. We are not afraid to make changes which, by the way, seems to be the reason for "taboos" that have come from eastern sources. Changes must be made, for we are in the midst of social and governmental changes. Fundamentally, we cannot endure if we insist on a strict perpetuation of the order of yesterdays. We must plan for many tomorrows with a wisdom that results from sound thinking.

Hugh Cabot recently wrote: "The solution will require good-tempered, patient and receptive discussion by groups of experts, and in the field of medicine physicians can supply the evidence but they cannot be expected to supply the mature judgment in the economic, social and financial fields, which will obviously be important and probably essential to success. Too often in discussions which have taken place, particularly in this country, and during the last ten years, these requirements have been lacking. Too often one group has become impatient with the other."

Hence we repeat, "Stand By" till the "essence of facts and conditions can be extracted" and wisdom and sound thinking can be mobilized into sound action.

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FEDERAL AND STATE MEDICAL RELIEF

(Copy of telegram from A. M. A.)

September 19, 1935.

Dr. F. C. Warnshuis,
450 Sutter Street,
San Francisco.

Information from Washington that it is intention of Administration to discontinue all federal direct relief, including medical relief, on November 1, and that it is assumed by Administration that State relief agencies will continue some medical relief financed from State funds. Hope to secure additional information for transmission to state secretaries within day or two.

Olin West.

* * *

STANFORD UNIVERSITY POSTGRADUATE COURSES

September 19, 1935.

My dear Doctor Warnshuis:

In reply to your letter of September 16 concerning the postgraduate courses given at Stanford University School of Medicine this year, I submit the following report:

Courses were given in: cardiology; diseases of the chest; obstetrics and gynecology; medical aspects of syphilis and its treatment; proctology; surgical anatomy, with special reference to operative approach and technique; ophthalmology.

These courses were given every day for one-half day each so that each participant might take a morning course for four days and an afternoon course for four days, except in ophthalmology. This course was limited to specialists only and extended from 8:30 a. m. to 3:30 p. m. In addition, there were three general meetings held in the evenings from 8 to 10. The first meeting covered glandular diseases and their treatment, the second meeting covered gastro-intestinal disease, and the third meeting covered nephritis and hypertension.

One hundred and forty-nine physicians took these courses, the registration being distributed as follows

	Enrolled
Cardiology	38
Diseases of the chest	14
Obstetrics and gynecology	75
Medical aspects of syphilis	25
Proctology	71
Surgical anatomy	29
Ophthalmology (specialty)	13

The attendance at these courses came from the following localities:

Alameda County	13
Butte County	1
Contra Costa County	2
Fresno County	6
Imperial County	1
Kern County	5
Kings County	1
Los Angeles County	52
Marin County	2
Mendocino County	1
Merced County	1
Monterey County	3
Nevada County	1
Orange County	3
Riverside County	1
Sacramento County	5
San Bernardino County	2
San Diego County	4
San Francisco County	9
San Joaquin County	7
San Mateo County	3
Santa Barbara County	3
Santa Clara County	4
Santa Cruz County	3
Siskiyou County	1
Solano County	2
Sonoma County	3
Stanislaus County	3
Tuolumne County	2
Ventura County	1
Nevada (State of)	1
Utah (State of)	2
Oregon (State of)	1

These courses were very well received and the participants uniformly expressed their pleasure and satisfaction at having attended the courses.

Very truly yours,
L. R. Chandler, M.D.

* * *

HOW GRIEVANCES ARE DEALT WITH UNDER THE ENGLISH HEALTH INSURANCE SCHEME

(This article, reprinted from the August 29 issue of the *New England Journal of Medicine,* appears in this issue in the Miscellany department, on page 317.)

* * *

COUNCIL MINUTES*

Minutes of the Two Hundred and Thirty-Eighth Meeting of the Council of the California Medical Association

The following minutes were approved by the Council by mail vote.

Saturday, September 7, 1935

Held in the Lounge of the Los Angeles Medical Association building, 1925 Wilshire Boulevard, Los Angeles, Saturday, September 7, 1935.

1. **Call to Order.**—The meeting was called to order by the chairman, T. Henshaw Kelly, with the following members present: Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; W. W. Roblee, speaker; T. Henshaw Kelly, chairman; Councilors Morton R. Gibbons, Karl L. Schaupp, C. L.

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* The minutes of the two hundred and thirty-seventh meeting of the Council of the California Medical Association were printed in the August, 1935, issue of California and Western Medicine, page 162.

Emmons, Carl L. Howson, Henry J. Ullmann, A. E. Anderson, Alfred L. Phillips, O. D. Hamlin, C. E. Schoff, Harry H. Wilson, C. O. Tanner, William H. Kiger, J. B. Harris; Chairman of Public Relations Committee Charles A. Dukes; Editor George H. Kress; Secretary-Treasurer F. C. Warnshuis; and General Counsel Hartley F. Peart.

Absent: Dr. Henry S. Rogers.

2. **Financial Statements.**—The secretary presented the financial statements for the months of July and August, 1935.

Moved by Councilor Kiger, seconded by Councilor Hamlin, that the financial statements for the months of July and August, 1935, be approved. Carried.

3. **Hospital Service.**—On motion of President Peers, seconded by Chairman of Public Relations Committee Dukes, and carried, the order of business was revised to permit the discussion of hospital service and Assembly Bill 246 as the first order of business.

Doctor Hamlin outlined the plan of the Alameda County Medical Association to provide hospital service only, through the various hospitals in Alameda County. It was stated that the service did not include pathologic, roentgenologic, or other medical service.

Moved by President Peers, seconded by Councilor Schaupp, that the Alameda County Medical Association's proposal to institute a hospital service as outlined by Doctor Hamlin meets with the favor of the Council, it being understood that the plan proposed will not include pathologic, roentgenologic, or any other medical service. Carried.

Detailed discussion of Assembly Bill 246 and the hospital and medical service plans offered by various organizations was had.

It was suggested that when the plan of the Alameda County Hospital Association was complete, details should be presented to the office of the California Medical Association so that it might be studied by the Department of Public Relations.

The advisability of a state-wide hospitalization plan was discussed.

4. **Recess of Council.**—At this point a recess of the Council was declared for luncheon.

5. **Call to Order.**—The Council was called to order after the recess, by the chairman.

6. **Hospital Service.**—Further discussion was had regarding the establishment of a state hospital insurance plan under Association sponsorship.

Moved by Councilor Kiger, seconded by Councilor Ullmann, that the Council instruct the Committee on Public Relations to study the matter of the application of Assembly Bill 246 to hospital insurance by a state-wide organization together with the possible cost of such a plan operated by the California Medical Association and a type of plan for county administration of hospital insurance without medical service, and to report as soon as possible to the secretary and that the secretary be instructed to furnish a copy of the report of each councilor. Carried.

Moved by Speaker Roblee, seconded by Councilor Ullmann, that the Council send a communication to each county society calling attention to this bill, enclosing copy of Assembly Bill 246, and advise them that the Council considered the matter and feels that it is of great importance and that the Council requests that the county societies investigate the situation in their local districts and make any suggestions that they desire to the office of the secretary, and further that the Committee on Public Relations will aid the county societies wherever possible, upon request. Carried.

Possible suggested standards for the administration of hospital insurance corporations under Assembly Bill 246 were informally discussed.

Moved by Editor Kress, seconded by Councilor Gibbons, that a copy of the informal suggestions relative to these standards be sent to each member of the Council and the Committee on Public Relations with the request that they forward any suggestions that occur to them to the secretary of the Association. Carried.

7. **Date of Council Meeting.**—Moved by Councilor Kiger, seconded by Chairman of Public Relations Committee Dukes, that a special meeting of the Council be called for November 2, 1935, at San Francisco. Carried.

The chairman of the Committee on Public Relations stated that a meeting of the Public Relations Committee would be held prior to the date of the Council meeting for consideration of the hospital insurance plan.

8. **Committee on Disciplinary Procedures.**—It was reported that the Committee on Disciplinary Procedures had met and formulated a number of recommendations for submission to the House of Delegates at the next annual session and incorporation in the Constitution and By-Laws.

The ethics of disposing of professional services to county hospitals was discussed.

Moved by Speaker Roblee, seconded by Councilor Ullmann, that the following resolution be adopted:

WHEREAS, It has come to the attention of the Council that certain members of our Association are engaging in the practice of disposing of their professional services to county hospitals and to certain lay organizations for a definite sum for an unknown amount of work; and

WHEREAS, These practices are not confined to their own county but extend to other counties and localities, thereby constituting competitive practices that are in violation of Article VI, Section 2 and Section 4, of the Principles of Professional Ethics, which set forth the following:

"It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

"By the term 'contract practice' as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or a fixed rate per capita.

"Contract practice *per se* is not unethical. However, certain features or conditions if present make a contract unethical, among which are: (1) When there is solicitation of patients, directly or indirectly. (2) When there is underbidding to secure the contract. (3) When the compensation is inadequate to assure good medical service. (4) When there is interference with reasonable competition in a community. (5) When free choice of a physician is prevented. (6) When the conditions of employment make it impossible to render adequate service to the patients. (7) When the contract, because of any of its provisions or practical results, is contrary to sound public policy.

"Each contract should be considered on its own merits and in the light of surrounding conditions. Judgment should not be obscured by immediate, temporary or local results. The decision as to its ethical or unethical nature must be based on the ultimate effect for good or ill on the people as a whole."

"It is unprofessional for a physician to dispose of his professional attainments or services to any lay body, organization, group, or individual, by whatever name called, or however organized, under terms or conditions which permit a direct profit from the fees, salary or compensation received to accrue to the lay body or individual employing him. Such a procedure is beneath the dignity of professional practice, is unfair competition with the profession at large, is harmful alike to the profession of medicine and the welfare of the people, and is against sound public policy"; now, therefore be it

Resolved, That the Council of the California Medical Association records its disapproval of such practices on the part of its members; and be it

Resolved, That the officers of the county societies where such practices are being conducted shall present to the officers of the county society of which these individuals who engage in such practices are members, information as to such violations and that they use their offices to secure an abatement of such unethical conduct; and be it further

Resolved, That instances of such practices be also reported to the State Secretary, who is hereby instructed to transmit this resolution to all constituent county societies and the State Board of Health, and under the instructions of the Executive Committee of the Council to bring about a strict observance of the Principles of Ethics that proscribe such practices. (Carried.)

9. **Committee of Five.**—The secretary of the Association reported on the present status of the survey conducted under the direction of the Committee of Five, and read the audit of accounts of the committee as prepared by Haskins & Sells, certified public accountants. The secretary stated that outstanding liabilities at the present time amounted to $2,647 and that a request had been received from Doctor Dodd for payment.

All members of the Auditing Committee being present, a meeting of the committee was had, the expenses of the Committee of Five studied and approved for payment, subject to approval by the Council.

Moved by Chairman of Public Relations Committee Dukes, seconded by President Peers, that the outstanding bills of the Committee of Five, amounting to $2,647, be paid. Carried.

The secretary stated that Doctor Dodd had stated that the final report would be ready on September 15, 1935.

Moved by Editor Kress, seconded by Chairman of Public Relations Committee Dukes, that the agreement between Doctors Molony and Wilson (and Doctors Kilgore and Peers by proxy), representing the Committee of Five, and Professor Paul A. Dodd, under date of July 28, 1935, be approved and that the secretary of the Committee of Five be requested to formally write Professor Dodd stating that the committee expects to receive the report on September 15, 1935. Carried.

The matter of publication of the report was deferred pending receipt of the final report.

A letter from the Medical Problems Group of San Francisco asking for copies of the data obtained by the survey was read.

Sunday, September 8, 1935

11. **Call to Order.**—The adjourned meeting of the Council was called to order by the chairman, T. Henshaw Kelly, with the following members present: Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; T. Henshaw Kelly, chairman; Councilors Morton R. Gibbons, C. E. Schoff, Karl L. Schaupp, C. L. Emmons, Carl L. Howson, Henry J. Ullmann, C. O. Tanner, W. H. Kiger, J. B. Harris; Chairman of Public Relations Committee Charles A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Speaker W. W. Roblee, Councilors K. L. Schaupp, O. D. Hamlin, and H. S. Rogers.

12. **Professional Ethics.**—Communications from the San Diego County Medical Society regarding a point of professional ethics were read, and the matter was referred to General Counsel Peart.

13. **Practice of Radiology and Pathology in Hospitals.**—The secretary submitted a report on the replies received in answer to the resolution adopted by the House of Delegates at Yosemite on the practice of radiology and pathology in hospitals. A letter from the Ross General Hospital was read.

Moved by President-Elect Pallette, seconded by President Peers, that the chairman of the Council and the secretary be authorized to reply to the Ross General Hospital letter. Carried.

14. **Constitution and By-Laws.**—The secretary submitted a report on printing costs of the Constitution and By-Laws including amendments, and suggested that since further amendments were to be submitted at the next annual meeting, reprinting be deferred.

Moved by President-Elect Pallette, seconded by President Peers, that the reprinting of the Constitution and By-Laws be deferred until after the Coronado meeting. Carried.

It was suggested that the secretary have the amendments to date printed and a copy be sent to each officer, councilor, and each county medical society for inclusion in their copies of the Constitution and By-Laws.

15. **Committee on Medical Education and Medical Institutions.**—A letter from Doctor Dock submitting his resignation as a member of the Committee on Medical Education and Medical Institutions was read.

Moved by President-Elect Pallette, seconded by Chairman of Public Relations Committee Dukes, that the resignation of George Dock be accepted with thanks, and that B. O. Raulston of Los Angeles be appointed a member of the Committee on Medical Education and Medical Institutions. Carried.

16. **Hunter Educational Service.** — Publicity proposed by the Hunter Educational Service was discussed.

Moved by Councilor Gibbons, seconded by Councilor Tanner, that this service encroaches upon the domain of the Public Relations Department and that it be referred to the Committee on Public Relations for study and report. Carried.

17. **Arrangements Committee.** — Letter of the San Diego Society suggesting names of committeemen for the Arrangements Committee of the annual session was read.

The secretary was instructed to inform the San Diego Society that the matter of press publicity had always been in the hands of the Council of the Association and that the Association desired to continue this practice.

18. **Medical Publications, Inc.**—The activities of the Medical Publications, Incorporated, were discussed by the Council and it was moved by Councilor Ullmann, seconded by Councilor Phillips, that the Council disapprove the activities of this organization. Carried. County societies to be so informed.

19. **Summer Round-Ups.**—Resolution of the Placer County Society regarding summer round-up of preschool children was presented to the Council and informally discussed. No action taken.

20. **Proceedings of Annual Session.** — After discussion, President-Elect Pallette moved, seconded by Councilor Harris, that the Master Reporting Company be employed to report the transactions of the Coronado session at a cost of $350. Carried.

21. **Membership.**—Letter from the American Medical Association stating that J. Tracy Melvin and Victor Vecki were eligible for affiliate fellowship was read.

Moved by President Peers, seconded by Councilor Harris, that J. Tracy Melvin of Porterville and Victor Vecki of San Francisco be nominated by the California Medical Association for affiliate fellowship in the American Medical Association. Carried.

22. **W. B. Mayo Laboratories, Inc.**—The activities of the W. B. Mayo Laboratories, Inc., were discussed.

Moved by Councilor Gibbons, seconded by Councilor Anderson, that the secretary and the general counsel be instructed to write up a resolution disapproving this type of organization and that a copy be sent to all component county secretaries. Carried.

23. **Medical Society of the District of Columbia.**—The secretary was instructed to send copies of the correspondence presented from the medical society of the District of Columbia to each member of the Council and to place the matter on the docket for consideration at the next meeting of the Council.

24. **Basic Science Law.**—George H. Kress, chairman of the Committee on the Basic Science Act, submitted a progress report for his committee.

On motion of Editor Kress, seconded by President-Elect Pallette, the following resolution was adopted:

Whereas, It is a well-established principle in law that no person shall be permitted to have legal sanction to hold himself before the public as a practitioner of the healing art, unless he has previously given satisfactory evidence to the constituted public authorities that he has had training and experience adequate to practice such profession; and

Whereas, Certain fundamental or preliminary education has been shown to be most necessary in the proper training of practitioners of the healing art, no matter to what schools belonging; and

Whereas, In commonwealths such as California, which possess multiple healing art examining boards, the legal requirements demanding basic preliminary education for all legally recognized schools of healing, are particularly needed; and

Whereas, A Qualifying Certificate (so-called Basic Science) Law would be of great value in protecting the health and lives of the citizens of California, as well as in promoting the educational and training standards of healing-art schools of the State; now, therefore, be it

Resolved, That the California Medical Association through its House of Delegates and Council herewith goes on record in favor of a law that will provide for a Qualifying Certificate Examining Board for the State of California, the proposed Act to be submitted to the electorate as an initiative law in the State election of 1936; and be it further

Resolved, That the executive group of the Special California Medical Association Committee on Qualifying Certificate Law (Doctors George H. Kress, Morton R. Gibbons, J. B. Harris, and Edward M. Pallette, with Association Secretary Warnshuis as its secretary), which special committee has been studying the subject for the last ten years, is herewith instructed and authorized under the direction of the Council, to proceed with the drafting of such an initiative law, the preparation of plans to secure the signatures necessary to place the proposed Act on the ballot of the State election to be held in November, 1936, and to have general supervision of publicity and other needed work in connection therewith.

25. **General Counsel.**—The general counsel reported on the cases of *Francis* vs. *Nelson* and *Goodall* vs. *Brite.*

Mr. Peart stated that formal application for the advancement of the hearing of the case of *Goodale* vs. *Brite* was being made.

26. **California and Western Medicine.** — Discussion was had of the allocation of annual dues made to the Journal.

Moved by President-Elect Pallette, seconded by Councilor Phillips, that in view of the lessened income from advertisements in California and Western Medicine, which has taken place in the last four years of general financial depression, that the allocation of annual support from the membership dues which was instituted some years ago be now changed by the Council and that $3 per member per year be allocated to subscription income of California and Western Medicine. Carried.

27. **Poll on Health Insurance.**—The request of the Sacramento Society for a poll of physicians on the matter of health insurance was discussed in detail.

Moved by Chairman of Public Relations Committee Dukes, seconded by Councilor Harris, that the Sacramento Society be requested to appoint a committee to appear before the next Council and discuss the matter of a poll of physicians on health insurance. Carried.

29. **Tax-Supported Hospitals.**—Councilor Anderson, chairman of the Committee on Tax-Supported Hospitals and Medical Service presented an outline for the activities of the committee.

The secretary was instructed to send a copy of the outline to each member of the Council with a request for suggestions, such suggestions to be sent to Doctor Anderson direct as chairman of the committee.

30. **Adjournment.**—There being no further business to come before the Council the meeting adjourned.

T. Henshaw Kelly, *Chairman.*
F. C. Warnshuis, *Secretary.*

COMPONENT COUNTY MEDICAL SOCIETIES

PLACER COUNTY

The Placer County Medical Society held its August meeting at the Freeman Hotel, Auburn, Tuesday evening, August 20. The meeting was called to order by President Louis E. Jones.

There were present the following members: Doctors L. B. Barnes, H. N. March, R. C. Atkinson, J. Gordon Mackay, Robert A. Peers, Lucas W. Empey, C. E. Lewis, and Max Dunievitz; and Miss Ruth B. Brandt, area case work supervisor, under District Administrator Maddox of SERA for Placer, Nevada, and Sierra counties.

Before taking up the regular business of the Society, President Jones introduced Miss Brandt, who explained the present plan for relief and its relation to medical care of persons on relief and those engaged in work projects. There was informal discussion, and Miss Brandt answered questions propounded by the members.

The application of Dr. Bernard W. Hummelt to become a member of the Society was read for the second time and the secretary stated that he had received a favorable report from the State Association. Doctor Hummelt was duly elected to membership.

The application of Dr. Paul S. Phelps of Colfax, for transfer of membership from the Litchfield County Medical Association of Connecticut to the Placer County Medical Society, was read for the second time. It appearing that Doctor Phelps had been practicing in the county for more than six months, he was duly elected as a member of the Placer County Medical Society.

The secretary stated that Dr. Walton Prescott, whose application for membership had been read at the last meeting, had left Placer County and is now engaged in practice in Alameda County. Doctor Prescott's application for membership was, therefore, withdrawn.

The correspondence on the secretary's desk was read and discussed.

Doctor Empey's resolution on summer round-ups for preschool children, which was presented at the last meeting and laid over until this meeting for action, was introduced. After general discussion the resolution was adopted with a few slight changes.

Robert A. Peers, *Secretary.*

SACRAMENTO COUNTY

A regular meeting of the Sacramento Society for Medical Improvement was called to order by the president, Dr. Orrin S. Cook, the evening of June 18 at the Elks Temple.

Sixty-two members and guests were present.

The president then introduced the speaker of the evening, Dr. Emile Holman, professor of surgery at the Stanford University Medical School. His subject was the *Present Status of Surgery in the Treatment of Pulmonary Tuberculosis, Bronchiectasis, and Neoplasm of the Lung.* He outlined the history of recent developments and illustrated his excellent paper by lantern slides.

The paper was discussed by Doctors Hopkins, Frank MacDonald, and Ruddy.

The applications for membership of Doctors Joseph E. Tillotson, Saverien, and Saeltzer were read for the second time and voted upon. All were unanimously elected to membership in the Sacramento Society for Medical Improvement.

The applications for membership of Doctors Hugh Carmichal and G. A. Prisinzano were read for the first time.

It was moved and seconded that this medical society accept the recommendations of the board of directors regarding the certification of Doctors Reardan and Cook to the Health and Welfare Board of Sacramento County. Passed. Communications were read.

Doctor Wallerius reported on the medical service in the SERA. It was moved and seconded that Doctor Wallerius' report and plan be accepted. Passed. It was moved and seconded that the secretary place the names of all the members of the society on the SERA panel who wish to work under the SERA. Passed.

Frank Warne Lee, *Secretary.*

SAN JOAQUIN COUNTY

The regular monthly meeting of the San Joaquin County Medical Society was held in the Medico-Dental clubroom, Stockton, September 5. The meeting was called to order by President C. A. Broaddus at 8:10 p. m.

Preceding the regular meeting a supper meeting was held at the Wolf Hotel at 6:15 p. m. There were twenty-seven members and guests present. Dr. G. H. Rohrbacher discussed his trip to New York and some of the recent work being done on skin diseases there.

Doctor Van Meter reported on the present status of the postgraduate study group.

The application of Dr. George Wever, which had been passed on by the Admissions Committee, was presented to the members. Doctor Wever was duly declared elected.

Dr. D. R. Powell presented the following resolution:

"The members of the San Joaquin County Medical Society, in common with many friends and patients, were shocked and grieved at the tragic accident which befell our fellow member, Tom O'Connor, on July 18.

"The loss by drowning of his only son, Tommy, evokes our sincere and deepest sympathy. Most of us are fathers with sons of our own, and we can appreciate what such a loss means; the thwarted plans, the shattered dreams and dashed hopes, and the heartache that lingers on and on.

"The members of this San Joaquin County Medical Society want our friend and confrère, Tom, to know that we are thankful that his own life was spared and that he has recovered from his injuries, and we desire to herewith express to Mrs. O'Connor, daughter Marjory, and Tom, our collective as well as individual sympathy in their great loss."

Doctor Powell moved that a copy be sent to Dr. Thomas O'Connor and that it be spread on the minutes of the San Joaquin County Medical Society. The motion was carried.

Mr. Fletcher, local administrator of the SERA, told about the new set-up and displayed the various forms that would be used.

Dr. George W. Pierce of San Francisco presented a paper on *Reconstructive Surgery Following Burns.* His paper was profusely illustrated with lantern slides. The paper was discussed by Doctors Broaddus and Rohrbacher.

The topic of Dr. Frank Hinman, professor of urology, University of California, the second speaker, was *Prostatism,* in which he touched on the embryology and types of surgery. The perineal operation for prostatic removal was illustrated by moving pictures presented by Doctor Powell, one of Doctor Hinman's assistants. The paper was discussed by Dr. Verne Ross.

There being no further business the meeting was adjourned at 10:50 o'clock and refreshments were served.

G. H. Rourbacher, *Secretary.*

SOLANO COUNTY

The Solano County Medical Society held its regular monthly meeting on September 10. The meeting was a dinner meeting held at the Casa de Vallejo in Vallejo. Dr. Ambrose Ryan presided.

The speaker was Dr. Montague Woolf of San Francisco, who spoke on *The Commoner Diseases of the Ano-Rectal Region and Their Treatment.*

The meeting was well attended. The talk, which was accompanied by lantern slides and moving pictures, was very much enjoyed.

A. E. Chappell, *Secretary.*

SONOMA COUNTY

The Sonoma County Medical Society held its September meeting in Santa Rosa on the 12th. A large attendance of medical men, dentists, graduate nurses, and a few lay guests were present.

Dr. F. O. Butler of the Sonoma State Home, president of our society, presided with his usual grace and dignity. Among other speakers, Mr. Ben Read of the Public Health League told of the experiences and efforts of that organization during the session of the last legislature.

Four films, illustrating general, rectal, spinal and intravenous anesthesia, formed the scientific part of the program, followed by a discussion of the subjects by Dr. Henrietta Fredrickson of the staff of the Sonoma State Home.

Routine business was transacted at the close of the scientific program, including the reading of many communications. It was announced that a tri-county meeting with Napa and Solano counties will be held in the Sonoma Mission Inn on October 2, at which time the secretary of the California Medical Association, Doctor Warnshuis, will be present.

W. C. Shipley, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (14)

Alameda County.—Harry N. Akesson.

Butte County.—Willard W. Carey, George W. Hemminger, Charles C. Landis.

Los Angeles County.—Denver D. Coleman, Donald C. Collins, Robert R. Dockweiler, G. O. McKeehan.

San Francisco County.—Donald M. Campbell, Florence L. Fouch.

San Joaquin County.—George K. Wever.

Santa Barbara County.—Francis McRae Findlay, J. Jerome Rupp.

Santa Clara County.—Earl F. Roth.

In Memoriam

Barkan, Adolph. Died at Zurich, Switzerland, August 28, 1935, age 90. Graduate of Medizinische Fakultät der Universität, Wien, 1866. Doctor Barkan was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

* * *

Bill, Philip August. Died at San Francisco, August 27, 1935, age 55. Graduate of the University of California Medical School, San Francisco, 1902, and licensed in California the same year. Doctor Bill was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

* * *

Blanchard, Lynne Harry. Died at Oakland, September 5, 1935, age 63. Graduate of the University of Vermont College of Medicine, Burlington, Vermont, 1895. Licensed in California in 1926. Doctor Blanchard was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

* * *

Cohn, David. Died at San Francisco, August 3, 1935. Graduate of Friedrich-Wilhelms Universität Medizinische, Fakultät, Berlin, Prussia, 1861. Licensed in California in 1876. Doctor Cohn was a retired member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

* * *

Cole, George Llewellyn. Died at Los Angeles, August 19, 1935, age 74. Graduate of the Bellevue Hospital Medical College, New York, 1886. Licensed in California in 1887. Doctor Cole was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

* * *

Little, Thomas Coe. Died at San Dego, August 20, 1935, age 61. Graduate of the Creighton University School of Medicine, Omaha, 1896. Licensed in California in 1912. Doctor Little was a member of the San Diego County Medical Society, the California Medical Association, and the American Medical Association.

* * *

Madden, Thomas Frederick. Died at Fresno, September 8, 1935, age 55. Graduate of Cooper Medical College, San Francisco, 1904, and licensed in California the same year. Doctor Madden was a member of the Fresno County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

* * *

Rehfisch, John Morse. Died at San Francisco, September 15, 1935, age 42. Graduate of the University of California Medical School, Berkeley, 1915, and licensed in California the same year. Doctor Rehfisch was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

Adolph Barkan

1845-1935

Following a brief illness Dr. Adolph Barkan quietly passed away in Bühlerhöhe, Germany, on August 28, 1935, in his ninety-first year; the last of that remarkable group of medical men who constituted the faculty of Cooper Medical College, who, in fact, built up that institution—Levi Cooper Lane, Henry Gibbons, Jr., Clinton Cushing, Adolph Barkan, J. O. Hirschfelder, J. H. Wythe, and others.

Doctor Barkan was the most brilliant, most fascinating teacher of the group, but he was much more than a teacher—he was an inspiration to students and faculty alike. Next to his love of his family his one great interest was in medical education.

Born at Eperjes, Hungary, on the southern slope of the Carpathian Mountains, January 8, 1845, Adolph Barkan as a small boy was much affected by the blindness of an aunt. He then and there resolved to devote his life to the assistance of those whose sight was failing, a resolution in which he never faltered.

He had a liberal early education in the public "Gymnasium," in which he devoted much attention to history and the classics. Even in after years he remembered his Horace.

His early university work was done in Vienna, but later he went to Zurich for a year at the time when the great Billroth was one of the teachers in that university. He was thus one of the first students to take advantage of the possibilities of moving from one university to another, even to the consternation of the faculty; a custom, however, which later became common in Germany with great profit to the students, for in recent years students seek the classes of men notable in their specialties instead of being limited to courses offered by the particular university in which they happened to matriculate. He was graduated in medicine by the University of Vienna in 1866.

Even as a boy, Doctor Barkan developed an ambition to come to California in this somewhat amusing way: The family had been the victims of a Cossack raid, which the youngster bitterly resented, for a burly Cossack snatched away the bowl of sour milk which the boy was drinking and drank it himself. In *Gartenlaube,* a German illustrated weekly, young Barkan read about the activities of the Vigilance Committee of the '50's in San Francisco, and said he wanted to go to a country where they did not have Cossack raids.

In his university years he eked out his meager allowance by teaching music. He played the piano well.

Coming to America, he stayed for a year in Baltimore, but in 1869 came to California to practice his specialty of diseases of the eye, ear, nose, and throat. When in 1876 a law was passed regulating the practice of medicine and providing for licensure, Doctor Barkan received license No. 433, dated November 21, 1876. He joined the faculty of the Medical College of the Pacific (later Cooper Medical College) in December, 1872, holding his first clinic in 1873.

In 1881 he married Louise Desepte of Carlsruhe, Baden, Germany. There were four children—Hans, Fritz, Otto, and Fanny. The last is now Mrs. Eric Offermann of Zurich, her husband a teacher in the university in electrical engineering. Fritz is in business in San Francisco. Hans and Otto are worthy successors of their father in ophthalmology, both occupying professorships in Stanford Medical School.

In his work Doctor Barkan made a great point of keeping abreast of the times. This led him to go to Europe frequently, and he would bring home the latest methods and instruments. As a practitioner of ophthalmology, Doctor Barkan was easily first in California. As a teacher he was adored by his students, who were inspired by his enthusiasm.

He did much for medical education, not merely as a teacher in his own specialty, but also in the general field, for he always stood for thoroughness, and, being a student, kept abreast of the development of general medical theory. I remember his reaction to the publication of von Baring's immunization in tetanus and diphtheria. He said, "This marks the beginning of a new era in medicine." And it was so.

I vividly remember one evening at a faculty meeting when Doctor Barkan, walking up and down the room, suddenly and *à propos* of nothing at all, said, "Gentlemen, we must have a professional physiologist." The faculty was electrified and ordered the employment of a full-time, trained physiologist, even before it was clear whence his salary should come. Dr. W. E. Garrey, now of Nashville, Tennessee, was appointed. And again, a few years later, 1898, the scene was repeated even more dramatically: "We must have a pathologist," said Doctor Barkan, and this resulted in the engagement of the late Dr. W. Ophüls.

Realizing the great benefit travel had been to him, he gave $5,000, experimentally, to Cooper College, calling the gift the Teachers' Fund, the purpose of which was to encourage some younger member of the teaching force to go abroad, the income of the fund to help defray his expenses. After Cooper College was absorbed in Stanford Medical School, this fund was transferred to the endowment fund of the Library of Ophthalmology, which Doctor Barkan founded as a department in Lane Medical Library, doubling this endowment. From the very beginning of the Lane Medical Library, Doctor Barkan was a kind of guardian angel of that institution, assisting in its development by his interest, his example, and generous contributions. He gave his own professional library as a nucleus of the Section on Ophthalmology, and, more recently, he gave $10,000 to found a department of the history of medicine in the Lane Library, and was instrumental in the purchase of the Seidel collection of medical historical works, furnishing most of the funds.

Doctor Barkan also made generous contribution to one or two European universities to further certain projects of educational value. The degree of Doctor of Laws was conferred upon him by the University of Glasgow in 1900 and later the title of Ehrensbürger (honored citizen) by the University of Munich.

He was the first to bring the giant Haab magnet to this country for the removal of bits of iron or steel from the eye; he was the first in California to perform the radical operation for mastoiditis, having prepared himself for this work by a course with Staacke.

In his private office he developed a number of men who afterward became prominent in San Francisco—Doctors E. F. Card, A. B. McKee, Stanley Stillman, Albert J. Houston, Wilbur M. Swett, Edward C. Sewall, and William Blake.

He was active in many other directions; for example, he did much for better music in San Francisco, serving for many years as a member of the board of governors of the San Francisco Symphony Association.

He wrote little, though he contributed a number of journal articles on ophthalmological and otological subjects, chiefly case reports. The indexes contain some thirty-five titles. A popular lecture, which he delivered in Cooper College, entitled "Music as Medicine," created a good deal of interest and was prophetic of much in psychotherapy.

In 1896, when Doctor Lane projected the founding of a course of medical lectures, he commissioned Doctor Barkan to convey his invitation to Professor William Macewen of Glasgow to deliver the first course of Lane Medical Lectures. Needless to say these lectures were of such high quality that the faculty of Cooper Medical College, and later of Stanford, has never had any difficulty in securing as lecturers the most eminent men in the medical profession.

The accompanying portrait etching is of Doctor Barkan toward the end of his years of activity, 1906.

Emmet Rixford.

✣

George L. Cole

1861-1935

Whereas, Our beloved, kindly and sympathetic member and colleague, George Llewellyn Cole, has passed into the great beyond while in active ministration of service in the greatest humanitarian profession; and

Whereas, As professor of therapeutics, professor of clinical medicine in the College of Medicine of the University of Southern California, as a member of the Los Angeles County Medical Association, as one of the founders and one-time president of the Southern California Medical Society, as a councilor of the Los Angeles County Medical Association for many years, as a member of the American Medical Association, and as a member of the American Academy of Medicine, he was honored and respected by students, by colleagues, and patients; therefore be it

Resolved, By the Board of Councilors of the Los Angeles County Medical Association that the sympathy of the members of the Association be extended to his bereaved wife, relatives, and myriad of friends; and be it further

Resolved, That a copy of these resolutions be spread upon the minutes of the Council, that they be printed in the bulletin of the Association, in the journal of the California Medical Association, and that a copy be sent to the bereaved family.

(Signed) W. W. Beckett, M. D.
J. T. M. Allan, M. D.
William Duffield, M. D.

✣

Donald Erskine Baxter

1882-1935

Donald Erskine Baxter, Los Angeles; University of Louisville, 1909; assistate superintendent of the Minneapolis Municipal Hospital; director of the Infantile Paralysis Commission, New York City; superintendent of Rockefeller Foundation's Union Medical College, Peking, China; served as major during the World War; decorated by Serbian Government; in private practice in California; founder and president of the Baxter Laboratories; author of several medical works; Fellow of the American Medical Association; member of the Association of Military Surgeons, International Anesthetic Association, American Hospital Association, California Medical Association, Greater New York Medical Association, and Phi Chi; aged 53; died July 30 of cerebral hemorrhage.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS*

More Taxes

A bulletin has been received from the Federal Security Commission that indicates just what we may be called upon to pay in the way of *additional* federal taxes. This additional tax is levied for the purpose of providing funds to finance the President's security program. The law demands that every employer shall make annual tax payments ranging from one to three per cent of the employer's wage payroll.

If you employ a nurse, office secretary, chauffeur, assistant, technician, houseman, stenographer, or any other person, you will be required to pay this federal tax, beginning January 1, 1936.

The federal Treasury Department is empowered to draft rules and regulations. The statement is made that these will be forthcoming before January 1.

Oh well, we can smile openly, but inwardly we have certain repressed opinions regarding legislative and administrative policies and individuals.

* * *

Your Office Girl

From time to time the value of a capable and efficient office receptionist, secretary, or nurse has been extolled. However, few physicians and surgeons realize that an efficient assistant is an important person, a very necessary person in his professional work.

The manner in which your telephone is answered, or a patient is greeted when entering your office may retain that patient's patronage or cause just the reverse.

The promptness with which your statements are sent out will increase your collections. And speaking of collections, an efficient office assistant will increase your cash collections and lessen the amount of credit charges by a tactful manner of approach. An understanding as to the amount of the fee to be paid for an operation or a series of treatments can be arranged by a capable assistant to the pleasing satisfaction of the patient as well as to the physician. A woman and even a man will be more free and frank in discussing her or his financial resources and reach a satisfactory understanding as to the fee if the subject can be discussed with your office assistant. Many persons are reluctant to be frank and open with their physician or surgeon in discussing finances and fees, whereas they will welcome the opportunity to do so if it can be done with your representative—your office assistant.

A tactful assistant will save the physician or surgeon many times the amount of her salary. Very recently a surgeon stated that he never discussed fees or finances with his patient. This phase of his practice was always referred to and handled by his secretary. He stated further that his operative fees were frequently paid in advance or arrangements were made that provided for prompt payments.

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* The complete roster of the Committee on Public Relations is printed on page 2 of the front advertising section of each issue. Dr. Charles A. Dukes of Oakland is the chairman, and Dr. F. C. Warnshuis is the secretary. Component county societies and California Medical Association members are invited to present their problems to the committee. All communications should be sent to the director of the department, Dr. F. C. Warnshuis, Room 2004, Four Fifty Sutter Street, San Francisco.

Many more accruing advantages and accomplishments that result from the services of a capable office assistant can be cited. Space will not permit. We do, however, urge that members pause for serious consideration of this important feature of their practice. Have you a capable office assistant, secretary, or nurse? If not, secure one and then delegate to her the business end of your work, and train her how to meet and deal with your patients. You will experience greater income, large clientele, and fewer financial worries.

* * *

Proposed Million-Dollar Building in Detroit for an Ambulatory Clinic

A Detroit correspondent indicates that California is not alone in its being confronted with economic problems that arise from lay individuals or groups. The following paragraph is of interest:

"Mr. ——— is going ahead with a program which involves the construction of a million-dollar building devoted to the treatment of ambulatory cases. It is not known whether he will build it in connection with the present hospital or in a downtown area. It practically means that he is opening a million-dollar office for the practice of medicine and hiring doctors to do the work. One scarcely visualizes what it means. There is a strong sentiment among the different hospital staffs to do likewise with their respective institutions. The private practice of medicine in this area seems to be about in the same position as the corner grocery man who has to compete with the chain stores. The California doctors are not alone in their struggles."

Similar or other problems confront every state organization, and yet there are those who hold and say that if we conduct ourselves in accordance with traditions we have no need of fear as to the future. They are the ones who, as one officer stated, "Stick their heads in the sand and think their tail feathers are safe." They talk but do not think. Medicine has ever conformed to changing social conditions and trends, rarely, if ever, has it led. There is need for leadership, and the state or county organization that seeks to assume leadership must not be disheartened by the ill-advised comments emanating from certain groups or individuals within their ranks and who reside in distant places.

* * *

Public Health Institutes

By reason of the initiative of the Woman's Auxiliary of Alameda County the first Public Health Institute will be held in Oakland on November 4 and 5. The Auxiliary has enlisted local lay groups and secured representatives to serve on the Committee on Arrangements. The Oakland Auditorium has been secured rental free. Prizes have been announced for the best poster on "health," to be competed for by art students in the county public schools.

Local booths will be prepared by the health department, dental society, hospitals, school nurses, County Medical Association, and the Antituberculosis Society. The California Medical Association, through its Committee on Public Felations, will furnish the following booths: How to live with your heart; appendicitis; child diets; cancer; preventive medicine; plastic surgery; basic sciences; maternal welfare; tuberculosis; nostrums; state health department.

During the day there will be several ten-minute demonstrations by selected members of the County Medical Society. At night a thirty-minute health talk will be given.

This will be the first health institute of a series that are planned for some fifteen or twenty counties in the State. They supplant the Association's Fair exhibits.

The fundamental purpose is as follows: "The purpose of this health institute is to present to the public the fundamental facts of modern scientific medicine for the purpose of building sound public opinion and knowledge relative to the questions of public and private health. This institute is primarily educational, and is based upon the proposition that in a democracy public health is a public concern." By this means the Association hopes to transmit to the public information that will be helpful and of value to the public.

* * *

Malpractice Liability

Legal advisers and insurance companies are calling attention to the liability that a physician or surgeon incurs when he patronizes a laboratory that is operated by an individual or individuals who do not hold a physician and surgeon's license.

Our Association holds that the taking of and interpreting an x-ray picture constitutes the practice of medicine. It is also held that the securing of specimens for pathologic examination and diagnosis is also the practice of medicine and that both procedures can only be done by those who are licensed to practice medicine.

Courts have frequently ruled that a physician and surgeon becomes liable for malpractice if he fails to observe certain practices and procedures. Competent opinions from competent persons is the only testimony admitted as evidence.

The opinion, interpretation, or diagnosis of an unlicensed person cannot be admitted as evidence. Consequently, by way of illustration, if a physician caring for a fracture relies on the services of an x-ray laboratory operated by a person not licensed to practice medicine, he is rendering himself liable. The same holds true in regard to pathologic examinations. Such practices will mitigate against the physician and weaken his defense should he be sued on charges of malpractice.

Our members are advised to use the services of laboratories that are conducted by licensed physicians and surgeons. Refrain from increasing your liability by observing this advice.

Minutes of the September 8 Meeting of the Committee on Public Relations

Held in the Lounge of the Los Angeles County Medical Association Building, 1925 Wilshire Boulevard, Sunday, September 8, 1935, at 9 a. m.

1. **Call to Order.**—The meeting was called to order by Chairman Charles A. Dukes, with the following members present: Doctors Fred B. Clarke, Morton R. Gibbons, Vincent Askey, Junius B. Harris, Edward M. Pallette, Charles A. Dukes, Frederick C. Warnshuis, and General Counsel Peart.

Absent: Doctors John H. Graves, Daniel Crosby.

2. **Activities of Departments.** — The secretary reported on the contacts that had been made with public liabraries and the bibliography of books on medical subjects that had been prepared and furnished these libraries.

Moved by Chairman of Committee on Public Health and Instruction Clarke, seconded by Chairman Industrial Practice Gibbons, that a letter be sent to the Parent-Teacher Association in large cities, calling attention to the fact that a large number of books dealing with problems in which they are interested are being installed in their public libraries; and further that a letter be sent to each component county medical society asking their coöperation in bringing these lists to the attention of the teachers' associations. Carried.

Secretary Warnshuis reported that the first Public Health Institute would be held in Oakland on November 4 and 5, that demonstrations of different phases of medicine and exhibits on disease prevention would be presented during the day and that an outstanding speaker would give a public health lecture in the evening.

It was suggested that the talks describing exhibits, etc., be mimeographed and used by speakers in order to establish a uniformity of information.

The secretary explained the type of projector manufactured by the Spence Lens Company.

Moved by Chairman of Committee on Health and Public Instruction Clarke, seconded by President Peers, that two or three of the Spencer Lens projectors be purchased, if the Public Relations budget permits. Carried.

The secretary reported that speakers for lay and medical society meetings were being compiled and that as soon as the list was complete it would be published in pamphlet form for distribution.

It was suggested that either a synopsis of the speeches be required from speakers or that a meeting of speakers be held and speakers be instructed as to the type of speech desirable.

3. **Public Relations Committee Meeting.**—On motion duly made, seconded and carried, the meeting of the Public Relations Committee was set for Sunday, September 22, 1935, at the Sir Francis Drake Hotel, San Francisco, at 9:30 a. m.

4. **State-Wide Hospitalization Plans and Assembly Bill 246.**—The advisability of a state-wide hospitalization plan in conformity with the provisions of Assembly Bill 246 was brought up. It was the sense of the committee that decision on this point should be postponed until the September 22 meeting of the committee and that in the meantime the secretary, the chairman of the committee, and Mr. Peart draw up a skeleton outline of the relationship which should be established between organizations. It was suggested that the members send in suggestions on hospitalization plans.

5. **Adjournment.**—There being no further business the meeting adjourned.

Charles A. Dukes, *Chairman.*
F. C. Warnshuis, *Secretary.*

Minutes of the September 22 Meeting of the Committee on Public Relations

1. The Committee on Public Relations met in the Sir Francis Drake Hotel in San Francisco on Sunday, September 22, 1935, at 10:15 a. m. The meeting was called to order by the chairman, Dr. C. A. Dukes, with the following members present: Doctors Robert A. Peers, Edward M. Pallette, Daniel Crosby, Morton R. Gibbons, Mr. Hartley Peart, and Director F. C. Warnshuis.

2. On motion made by Doctor Pallette, supported by Doctor Gibbons, the committee recommends to the Council that no direct endorsement be given to advertising cards that are enclosed in correspondence of members with their patients. After discussion the motion was carried.

3. It was recommended that the director address a communication to Dr. Fred A. Clarke and request him to prepare a set of cards that might meet with the approval of the Committee on Public Relations and the Council.

4. The director made a verbal report of the activities that have been reflected by the Department of Public Relations. Contact has been made with the Nurses' Association, Parent-Teachers' Association, and the Federation of Women's Clubs. All of these lay organizations welcomed a meeting of representatives of the Public Relations Department with their members in order to discuss ways and means by which these organizations may join with the California Medical Association for the purpose of reflecting combined effort and activity in questions relating to health and medical practice in the State. It was suggested by the chairman that when these conferences are held that representatives of the Woman's Auxiliary to the California Medical Association be invited to send representatives to each conference. The director was directed to arrange for a joint conference with the Parent-Teachers' Association before that organization holds its annual meeting. The director was also instructed to arrange a meeting with the California Nurses' Association and the State Federation of Women's Clubs.

5. The director reported on the progress of the Public Health Institutes to be conducted in various centers in the State. The first Health Institute will be held in Oakland on November 4 and 5. The director presented the general object and purpose of the institutes, and on motion of Doctor Crosby, supported by Doctor Gibbons, this was approved.

6. On motion of Doctor Pallette, supported by Doctor Crosby, the director was requested to secure copies of the blanks for examination of school children and preschool children as adopted by the national Parent-Teachers' Association and the American Medical Association, and also to secure the resolutions that establish the principles under which the medical profession will coöperate with the Parent-Teachers' Association and the regulations governing the nature and method of conducting these physical examinations.

7. The director reported that one press release each week has been made to some 250 newspapers throughout the State and that clipping returns indicated that the majority of these papers were publishing these release items.

8. The director presented a communication from the Bureau of Economics of the American Medical Association in regard to material that had been prepared for the debate team groups of high schools and colleges on the subject of health insurance. The Bureau of Economics of the American Medical Association requested an expression as to whether literature asked for in these inquiries should be distributed by that Bureau or whether the Department of Public Relations desired to supervise distribution in California. The director also stated that he was receiving requests for information on health insurance from students in high school and colleges and that the only literature and material in possessoon of the Association was that literature that had been prepared by the Bureau of Economics of the American Medical Association. On motion of Doctor Pallette, seconded by Doctor Gibbons, the director was instructed that, as he received requests for information on health insurance, the material on hand should be sent with the statement that this material was prepared by the American Medical Association.

9. On motion of Doctor Gibbons, seconded by Doctor Crosby, the director was instructed to advise the Bureau of Medical Economics of the American Medical Association that requested information should be sent direct from the Chicago headquarters inasmuch as the California Medical Association does not have a supply of literature on file. After discussion, this motion was carried.

10. The director stated that the Council had referred to the Committee on Public Relations the question of studying Assembly Bill 246, which authorizes nonprofit corporations to issue hospital insurance. The Council further requested that the committee make recommendations to the Council as to what policy and position should be assumed by the California Medical Association. Doctors Frederick Gundrum, Frederick Scatena, of the Sacramento Medical Society, and Mr. Brisbane were present and joined in the general discussion that ensued. On motion of Doctor Pallette, seconded by Doctor Gibbons, this entire question was referred to the chairman and director of the Department of Public Relations, they, in turn, to join with the standing committee of the Association on Hospitals, Dispensaries and Clinics to formulate general purposes and policies for recommendation to the Council. After further discussion, this motion was carried.

11. The director drew attention to the advisability of adding to the membership of the Public Relations Committee Dr. Clarence G. Toland, who is the chairman of the Standing Committee on Postgraduate Instruction. On motion of Doctors Crosby and Peers, the director was instructed to invite Doctor Toland to join with the Committee on Public Relations in their deliberations and that an amendment to the bylaws would be prepared and presented for adoption at the meeting in Coronado, which amendment will provide for the enrollment of Doctor Toland as a full member of the Committee on Public Relations.

12. The director was instructed to arrange for a joint meeting of the Committee on Hospitals, Dispensaries and Clinics with the chairman and the director of this committee, the meeting to be held in San Francisco on Sunday, October 6, 1935.

13. After a general discussion regarding certain features of hospital insurance, participated in by Doctors Crosby, Gundrum and Scatena, and the committee, this meeting adjourned at 3:15 p. m., subject to the call of the chairman.

C. A. DUKES, *Chairman.*
F. C. WARNSHUIS, *Director.*

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

MRS. THOMAS J. CLARK .... President
MRS. ELMER BELT...... Editor and Chairman of Publicity

State Auxiliary News

September Board Meeting. — The State Auxiliary's work for the year, assigned to the various committee chairmen at the post-convention board meeting in Yosemite, has made fine progress during the intervening months. At the second meeting of the State board, held September 5 at the Lake Merritt Hotel in Oakland, Mrs. Thomas J. Clark, the State president, received reports of detailed plans and actual accomplishments. This is the California Auxiliary's seventh year, and Mrs. Clark, in welcoming her official family, stressed the fact that the organization has come of age. Its aims are clearly defined, its plans are thoughtfully designed, and the members for its posts are chosen for their ability to carry on their official duties.

Of the eighteen members of the State board only four were absent. Those attending were: State officers, Mrs. Thomas J. Clark, Mrs. Andrew J. Thornton, Mrs. William H. Sargent, Mrs. John V. Barrow, Mrs. C. Kelly Canelo, Mrs. David E. Froehlich, and Mrs. Frank Makinson; the district councilors, Mrs. Eliott G. Colby, Mrs. Elmer Belt, Mrs. F. J. Conzelmann, Mrs. John Hunt Shephard, and Mrs. S. N. Weil; councilors-at-large, Mrs. Mark A. Glaser and Mrs. Arthur J. Annis. Mrs. Harry O. Hund of San Rafael, who had come to represent the newly organized county of Marin for its president, Mrs. Robert Furlong, was made councilor for the ninth district. Three county presidents, Mrs. Robert T. Sutherland of Alameda, Mrs. H. L. Carpenter of Contra Costa and Mrs. Russel Lee of Santa Clara brought the total attendance to eighteen.

Membership and Organization Chairman, Mrs. William H. Sargent, reported the addition of three new counties since May—Siskiyou, with Mrs. Leslie J. Seeley as president; Lassen-Plumas, Mrs. F. J. Davis of Westwood, president; and Marin under the leadership of Mrs. Robert Furlong. The San Francisco County group will meet during September, when the twenty charter members who initiated the organization in May just before the annual convention will complete the plans for that county. This State organization report makes as fine a record of accomplishment during the summer interlude as could perhaps be found anywhere in the entire country.

An outline for programs and health education throughout the State, made by Mrs. John V. Barrow, shows a comprehensive grasp of the Auxiliary's purpose. Dividing her program suggestions into two classes, those for the counties with smaller membership are built about social and philanthropic projects, while plans for the larger county groups are listed under three main headings:

1. A study of current questions related to medical affairs that every doctor's wife should know, such as the value of animal experimentation, the health welfare agencies of the community, a comparison of the educational qualifications for doctors of medicine with those of chiropractors, naturopaths, etc.

2. Legislative education—an effort to keep informed on the more important bills before the State Legislature pertaining to medical and public health problems.

3. The presentation of child health and welfare education as major programs.

Several communications addressed to the State board were read by the secretary, including a letter from the secretary-treasurer of the California Medical Association, Dr. Frederick Warnshuis, outlining a series of Public Health Institutes to be held once a year in different cities throughout the State and asking the Auxiliary's help in bringing these sessions to the attention of the public through the various clubs and organizations. Another request for assistance at the State meeting of the Society for Prevention of Tuberculosis to be held in Sacramento came from its president, Dr. Harold Trimble. The board gladly pledged the full coöperation of the Auxiliary for both these projects.

Copies of the State Constitution of the Auxiliary, which the president has just had printed, were distributed at the meeting.

Mrs. Robert T. Sutherland, in reporting for Alameda County, told of their plans for a Health Institute this fall, an endeavor which promises to be a distinguished contribution to the health education of the entire community. The Civic Auditorium of Oakland has been engaged for November 4 and 5, and a two-day program of lectures, discussions, motion pictures, puppet show and many other interesting features, including evening speakers of national prominence, are planned for it. A contest in the public schools for the posters to advertise the Institute is being held, with prizes for the winners in grammar, junior, and senior high-school grades. Mrs. Sutherland and her committee have enlisted the interest and support of the Board of Education, the medical, dental and public health societies of the county, women's clubs, civic and service organizations. The Alameda Auxiliary is making the pioneer endeavor in the far West for this type of activity, and deserves great credit for their energy and skill. In the East, Pennsylvania has for several years held an annual institute with much success. When Mrs. Philip Schuyler Doane, the president, returned last year from the National convention, she brought home the suggestion that a similar project be tried here, and Alameda County seems well on the way to an achievement of which every Auxiliary member can be proud.

Reporting for San Joaquin County, who it will be remembered won the Membership Trophy last year, Mrs. F. J. Conzelmann, as district councilor, told of their plans to establish a child-guidance clinic in Stockton as the major project for this year.

At the conclusion of the business session the board members were taken to the home of Mrs. Sargent on the hills overlooking the city of Oakland, where they enjoyed a delightful hour at tea time. President Clark, with two of her daughters and other members of the Alameda Auxiliary, assisted the hostess in receiving the out-of-town members.

* * *

Recommendations from the Annual Meeting.—At the pre-convention board meeting at the Ahwahnee in May, it was moved that the following recommendations and suggestions be published as possible aids for some of the county auxiliaries.

Recommendations concerning Public Relations work made by Mrs. Barrow, state chairman.

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* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

1. Every county, no matter how small, should have a Public Relations chairman.
2. This chairman should acquaint herself well with the duties and possibilities of Public Relations work.
3. Make a study of the Public Relations work of the lay organizations of the community.
4. Watch the local papers for health programs and notice who sponsors them and who speaks at them. If possible attend these or have some member of your committee attend; better still, a doctor.
5. Offer your help to lay organizations with their health programs and supply able speakers from your Speakers' Bureau.

Recommendation for *Hygeia* committees made by Mrs. Frank Baxter, state chairman.

1. Place at least one subscription of *Hygeia* in every unit of the Parent-Teachers' Association.
2. The suggestion to put *Hygeia* in such places where it will reach many different classes of the public, such as beauty shops, railway stations, transpacific liners, and overland trains, is well worth consideration.
3. Regard *Hygeia* as a publication that is opened with expectation and closed with profit.

Suggestions for county auxiliaries taken from the annual report of Mrs. John V. Barrow, Los Angeles County president:

1. All officers and chairmen should have their own copy of the "Handbook for the State Auxiliaries," published by National.
2. They should learn the duties of the office and put all their ability in carrying them out.
3. Read the Auxiliary's department in each issue of California and Western Medicine and in the American Medical Association Bulletin.
4. Make all possible contacts with the Parent-Teachers' Association and lay organizations for child-health programs.
5. Hold a health conference or institute, if possible.
6. Study legislative bills that affect scientific medicine and public health.
7. Be interested in the health problems of the community and have qualified speakers available for programs.
8. Have one large social function during the year's program.
9. Aim to keep scientific medicine before the public and thus suppress quackery.

* * *

Californians on National Committees.—Mrs. David S. Long of Missouri, the national chairman of Public Relations, has appointed our past president, Mrs. Philip Schuyler Doane, on her committee in charge of the western division, which includes the far western and southwestern states. Mrs. Mark A. Glaser continues on the National *Hygeia* Committee, under the chairmanship of Mrs. James D. Lester of Tennessee. Mrs. Frederick N. Scatena is serving her second year as director on the national board.

* * *

County Auxiliary Reports

San Diego.—The regular meeting of the Woman's Auxiliary to the San Diego Medical Society was held on September 10 at the Hotel del Coronado Beach and Tennis Club. A delightful buffet luncheon was served beside the pool.

A very interesting report was made by Mrs. R. O. Taylor, chairman of the Publications Committee. In regard to *Hygeia*, she reported that the Young Men's Christian Association, the East San Diego branch and the University branch of the Public Library, where the Auxiliary placed copies of *Hygeia* last year, were very grateful and reported to her that the magazines were widely read. The committee again sent *Hygeia* to these places, and, in addition, to the Horace Mann Junior High School, to the Neighborhood House, and to the Normal Heights of the Public Library.

When the Parent-Teachers' Association held its state meeting this summer in San Diego, *Hygeia* posters were hung and free copies of the magazine were distributed. One hundred and fifty copies of *Hygeia* and an equal number of the American Medical Association pamphlets, listing health literature, were given out.

This meeting of our Auxiliary partook of the nature of a fall reunion after the summer vacation, and the afternoon was devoted to visiting and knitting.

Lucile Newton, *Secretary.*

NEVADA STATE MEDICAL ASSOCIATION

E. E. HAMER, Carson City	President
R. O. SCHOFIELD, Boulder City	President-Elect
C. E. SECOR, Elko	First Vice-President
HARRY W. SAWYER, Fallon	Second Vice-President
HORACE J. BROWN, Reno	Secretary-Treasurer and Associate Editor for Nevada

Announcement of Annual Meeting

To the Members of the Nevada State Medical Association:

The annual meeting of the Nevada State Medical Association will be held at Elko, October 25 and 26. The dates were changed from September in the hope that we can secure several essayists, who will be on their way to attend the annual meeting of the American College of Surgeons at San Francisco, which will convene on October 28. We have assurance that every effort will be made to have about two dozen eastern men attend our meeting, five of whom will read papers.

The outlook is bright for a very fine meeting, with probably the largest attendance in our history.

We would strongly advise that you begin now to make your plans to attend, and do not forget to bring the missus along to attend the Auxiliary. The poor old Auxiliary seems to be suffering from atelectasis, and if something is not done very promptly it is liable to pass into the dim and distant whence.

We hope you have been keeping posted on the propaganda for state medicine, so that you will know what to do when some layman begins to tell you how to practice medicine, and wants to pay you about $150 per month.

In the meantime, if you are doing any work for the federal relief agencies, we would suggest that you make definite agreements at the beginning of each case and hold out for not less than the Army fee schedule. You will find this is little enough, but about twice what the local lay director thinks you should have.

We hope to see you in Elko, October 25 and 26.

H. J. Brown, *Secretary.*

Worth a Moment's Conjecture.—The witness in court is sworn to disclose "the truth" (of which he cannot be sure) "the whole truth" (which nobody knows about anything) "and nothing but the truth" (which his own emotional reactions will inevitably modify).

* * *

Man is entitled to "life" if he can avoid murderers, "to liberty" if he can obey inconsistent laws, and "to the pursuit of happiness," which involves a dusty chase.

* * *

The propagandist of "all's well with the world" has probably escaped thugs and does not need, in cowboy lingo, to "rustle for grub."

MISCELLANY

Under this department are ordinarily grouped: News Items; Letters; Special Articles; Twenty-five Years Ago column; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

American College of Surgeons, Fairmont Hotel, San Francisco, October 28 to November 1, 1935. Howard C. Naffziger, M. D., 384 Post Street, San Francisco, Chairman.

California Medical Association, Coronado, May 25-28, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco, Secretary.

Nevada State Medical Association, Elko, Nevada, October 25-26, 1935. Horace J. Brown, P. O. Box 698, Reno, Secretary.

Pacific Coast Society of Obstetrics and Gynecology, Los Angeles, November 6-9, 1935. T. Floyd Bell, M. D., 400 Twenty-ninth Street, Oakland, Secretary.

Western Orthopedic Association, San Francisco, October 25-26, 1935. Merrill C. Mensor, M. D., 490 Post Street, San Francisco, Secretary.

Medical Broadcasts*

San Francisco County Medical Society.—The radio broadcast program for the San Francisco County Medical Society for the month of October is as follows

Tuesday, October 1—KJBS, 11:15 a. m. Subject: Blood-Building Foods.

Thursday, October 3—KFRC, 1 p. m. Subject: Blood-Building Foods.

Tuesday, October 8—KJBS, 11:15 a. m. Subject: Appendicitis—A Growing Menace.

Thursday, October 10—KFRC, 1 p.m. Subject: Appendicitis—A Growing Menace.

Tuesday, October 15—KJBS, 11:15 a. m. Subject: The New Deal in Appendicitis.

Thursday, October 17—KFRC, 1 p. m. Subject: The New Deal in Appendicitis.

Tuesday, October 22—KJBS, 11:15 a. m. Subject: The Family Doctor.

Thursday, October 24—KFRC, 1 p. m. Subject: The Family Doctor.

Tuesday, October 29—KJBS, 11:15 a. m. Subject: What Is a Mastoid?

Thursday, October 31—KFRC, 1 p. m. Subject: What Is a Mastoid?

* * *

Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of October is as follows:

Tuesday, October 1—KECA, 11:15 a. m. Subject: Alcoholism 1.

Saturday, October 5—KFI, 9 a. m. Subject: Alcoholism 1.

Saturday, October 5—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 8—KECA, 11:15 a. m. Subject: Alcoholism 2.

Saturday, October 12—KFI, 9 a. m. Subject: Alcoholism 2.

Saturday, October 12—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 15—KECA, 11:15 a. m. Subject: Alcoholism 3.

Saturday, October 19—KFI, 9 a. m. Subject: Alcoholism 3.

Saturday, October 19—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 22—KECA, 11:15 a. m. Subject: Alcoholism 4.

Saturday, October 26—KFI, 9 a. m. Subject: Alcoholism 4.

Saturday, October 26—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 29—KECA, 11:15 a. m. Subject: Alcoholism 5.

Samuel D. Gross Prize for 1935.—The Samuel D. Gross Prize for the year 1935 has been awarded to Dr. Owen H. Wangenstein, department of surgery, University of Minnesota, Minneapolis, Minnesota, for his essay, entitled "The Therapeutic Problem in Bowel Obstruction."

Information for Technicians.—Under Chapter 638, recently passed by the legislature, technicians must, after September 15, 1935, hold a technician's license issued by the State Board of Public Health. The principal exception is in laboratories conducted by physicians for use in their own practice and provided they do not receive specimens from other doctors or from patients of other doctors. A group of physicians occupying one suite of offices comes under the same exception. Not all persons in a clinical laboratory come under the classification of technician. A limited number, at least one and in some cases two, may be classed as apprentices until able to pass the examination.

The certificate of license as "clinical laboratory technician" is issued by examination covering the whole field of clinical laboratory work. The fee for the examination is $5, not returnable in case of failure, and the annual renewal fee is $1. The certificate entitles its holder to engage in any phase of clinical laboratory work, but not to direct the work of a laboratory excepting under a physician or a clinical laboratory technologist. College degrees and experience count toward the certificate, but the examination paper must reach a certain grade of excellence regardless of experience.

The individual certificates in bacteriology, serology, biochemistry, and parasitology are continued and the examination fee for these is $2 for each examination, not returnable in case of failure. The renewal fee is 50 cents for each senior certificate, payable annually. The senior certificate entitles the holder to engage unsupervised in the work covered by that certificate only. It serves to provide for a limited license in laboratories where the technician is not required to do all types of work.

Junior grade certificates are issued to applicants who make a certain grade but do not give evidence of that degree of proficiency required by the holder of a senior grade certificate. Junior certificates do not require annual renewal.

Persons who accumulate all four senior certificates may turn them in and secure in exchange the certificate as clinical laboratory technician without further examination and without fee if the certificates were secured after the passage of the law. If secured before the passage of the law, a fee of $5 is required.

Applications to take the examination must be filed two weeks in advance of the advertised date. Information regarding the date, hour, and place of examination is sent to each person who has an application on file, together with a card of admittance, several days before.

Those desiring information as to the scope of the examination should write for Bulletin No. 9. Special forms on which to apply for the examination will be sent on request.

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* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to CALIFORNIA AND WESTERN MEDICINE, 450 Sutter Street, San Francisco, for inclusion in this column.

Public Health and Nursing Examination Announced. The next examination for public health nursing certificate will be held simultaneously at San Francisco and Los Angeles on Saturday, December 21, 1935.

Completed applications must be on file in the office of the Department of Public Health, 312 State Building, San Francisco, not later than November 15, 1935.

Painted Mosquitoes.—The Public Health Service painted mosquitoes in its search for a way to prevent airplanes from bringing the disease-bearing pests into this country.

Officials disclosed that after five years of experiments, they found a method of prevention so efficient that inspectors find only about one mosquito in every ten planes entering the United States from foreign ports.

Officials sent to South America, mosquitoes sprayed with a color fluid and loaded them aboard airplanes. At each stop along the route, they would see how many mosquitoes were left aboard the plane. The planes travel from the yellow fever zones into this country in three days.

Then the search began for a non-inflammable spray that would be effective and could be used aboard airplanes. Dr. Charles Williams of New Orleans finally worked out a solution of flowers of pyrethreum mixed with light oils, which proved effective.

Noted Doctor Will Give Address Here.—San Francisco and California medical circles are preparing to welcome a world figure in tropical medicine, in the person of Dr. Hamilton Fairley, secretary of the Royal Society of Tropical Medicine in London, who is scheduled to make three addresses in this city.

Doctor Fairley is coming to the United States to address the annual meeting of the American Society of Tropical Medicine in St. Louis November 20 to 22. He will come first to San Francisco, making his first appearance before the San Francisco County Medical Society on November 13. The following day he will address the Pasteur Society and on Friday, November 15, he will address the students and staff of the University of California Medical School.

The visit of Doctor Fairley is particularly opportune at this time, as the American Society of Tropical Medicine is now endeavoring to coördinate the work of a number of medical schools and societies to deal with the tropical diseases now in this country and the threatened invasion of others. One of the principal factors in this work is the Pacific Institute of Tropical Medicine, of which Dr. A. C. Reed, professor of tropical medicine in the University of California, is the director. Doctor Reed is also a director of the American Society of Tropical Medicine. The Institute is a part of the Hooper Foundation of Medical Research of the University.

Governor Merriam Appoints Dr. Walter M. Dickie Director of the State Department of Public Health.—On September 16, Governor Merriam appointed Dr. Walter M. Dickey as secretary-director of the State Department of Public Health. The Los Angeles *Times* made the following statement:

> Dr. Walter Murray Dickie of Berkeley was appointed head of the State Department of Public Health by Governor Merriam to succeed Dr. J. D. Dunshee, who resigned.
>
> Doctor Dickie, a former resident of Los Angeles, served as director of the State Public Health Department in three prior State administrations and his selection for the post is considered as a reappointment.
>
> Doctor Dickie will assume his new post immediately. Doctor Dunshee resigned after numerous reports of friction between him and the personnel of the department.
>
> Doctor Dickie was born May 12, 1875, at Ottawa, Canada. He is the son of John and Louise Dickie, and came to California in 1885. He was graduated from the University of California in the class of 1898 and the University of California Medical College, class of 1901.
>
> He is a member of the Los Angeles County Medical Society, and a fellow of the American Medical Association.

Chiropractic Test. — Under the above caption the San Francisco *Examiner* of August 9, 1935, printed:

> The judge looked on calmly as one man rolled up his sleeves, another removed his collar—
>
> Superior Judge John J. Van Nostrand's court nearly became the scene of a practical demonstration of chiropractics yesterday. Legal tactics—and the discouraging avoirdupois of an intended "subject" balked the seriocomic enactment.
>
> Two groups of chiropractors, with the State of California as intervenor, are attempting to secure a legal definition of the rights and limits of a chiropractor's ministrations.
>
> Philip Lovell, Los Angeles, was the chiropractor who was to perform the experiment. He sighed, however, and shook his head when a 200-pound man was selected for him to work on, stating he would need "x-rays" to analyze the subject's condition.
>
> Lionel Browne, Deputy Attorney-General, declined to serve in the experiment.
>
> "We're trying to find out what a chiropractor can do. I'll wait until we have the answer before I submit," Browne said.

Senator Files Objection to Committee Aid—Appointment for Health Insurance Survey Protested.—The San Francisco *Chronicle* of September 17 printed the following:

> Senator Dan E. Williams of Tuolumne County today protested the appointment of Celestine Sullivan as committee secretary in a letter to Senator Edward H. Tickle, Carmel, chairman of Senate Interim Committee on Health Insurance. Senator Williams is a committee member.
>
> The Senator said Mr. Sullivan was a State Harbor Commissioner for San Francisco and pointed out that Governor Merriam has objected to State employees serving in other State capacities.
>
> Senator Williams also said he "openly charged Mr. Sullivan with 'lobbying'" for bank interests and "his ideas on health insurance."
>
> ### COLORING REPORT CHARGED
>
> Mr. Sullivan was described by the Senator as coloring a report on "the high cost of sickness" with his ideas during his tenure as secretary of the 1935 committee, which reported to the last legislature.
>
> "His quite evident animosity for certain medical authorities had no place in this report," said Senator Williams. "To be sure, this report was signed by the committee, but necessarily, in our hasty perusal, its faults elicited no particular comment that a careful survey would have disclosed.
>
> ### FACTUAL MATTER GOOD
>
> "The factual matter was good and is good today but much of the remaining pages could have been dispensed with at no great loss to the report."
>
> Referring to a Senate bill on health insurance, which was defeated, the Senator charged that the "dominant attitude of a secretary convinced that health insurance should be a compulsory measure had much to do with the failure of that measure. . . ."

One Hundred Thousand on Relief Lose Medical Aid in Los Angeles County.—On September 17 the Los Angeles *Herald-Express* printed the following item:

> Approximately 100,000 county relief clients today were without medical care, due to a decision of State Emergency Relief Administrator Frank Y. McLaughlin that the legislative act covering the $24,000,000 relief bond issue does not make medical care mandatory.
>
> Not more than 10 per cent of those who have been receiving the medical care can be taken care of by county means, Superintendent of Charities Rex Thomson said today.
>
> As a result, county medical care will be given only in the most urgent cases, Mr. Thomson said.
>
> Mr. McLaughlin yesterday notified Mr. Thomson that money from the $24,000,000 bond issue would not be used for medical care, despite a provision in the legislative act providing that medical care be included in the purposes for which the bond issue was voted.
>
> Mr. Thomson countered today by stating that Mr. McLaughlin's interpretation of the act was arbitrary and unfair, but that the county care, due to lack of funds,

would have to be reduced 90 per cent until such time as Mr. McLaughlin decided to let the county have some of the state funds to finance the work.

"The act provides that the bond money shall be expended for home or direct relief, including money, food, housing, clothing, fuel, light, water, medicine, medical and other treatment, medical appliances, nursing, etc.," said Mr. Thomson, quoting from the legislative act. "It was the intention of the legislature that this money should include medical care."

The Western Orthopedic Association.—The annual meeting of the Western Orthopedic Association is to be held in San Francisco on October 25 and 26, 1935. Two days of scientific sessions will be devoted to the presentation of papers by outstanding orthopedists of the Pacific Coast combined with clinical meetings at San Francisco Hospital, Stanford Hospital, and Mount Zion Hospital. A cordial invitation is extended to all members of the profession interested in orthopedics to attend its session. For further particulars, communicate with Merrill C. Mensor, M. D., 490 Post Street, San Francisco, secretary.

LETTERS

Reply of Dr. Rodney A. Yoell to letter of Frederick L. Hoffman, LL. D., printed in "California and Western Medicine" (issue of July, 1935, page 102).

To the Editor: It is neither my desire nor intention to enter into any controversy with Mr. F. L. Hoffman, but in justice to my fellow members in the House of Delegates his letter, as published in the July number of California and Western Medicine, page 102, merits an answer. To review his letter, point by point, would be tedious as well as fruitless, but certain of his statements bearing directly on the subject he brings to issue—namely, his testimony before the Canadian Commission—as stated by me in the House of Delegates, can be categorically challenged.

Mr. Hoffman declares that he has "probably written as much as anyone in this country on the operation and results of health insurance in European countries," etc. It is not the *quantity* but the *quality* of his lucubrations which draw fire.

He submits that he has been to Europe, but it does no harm to remark that opportunities for foreign travel and study are not his exclusive and peculiar prerogative.

Mr. Hoffman's assertion that my comments on his views "betray the same personal bias" as the Canadian report, is a charge ridiculous to the point of crudity. When he levels his lance at the Canadian Commission from this rest, the fatuous futility of the attack would seem to spring from a childishness almost naive in its conception. Why should (as he charges) an obscure California physician and five members of the Royal Commission in Canada conspire on *personal grounds* to reject his views and testimony.

Mr. Hoffman admits he has not read the Canadian report offered in evidence by me at the Los Angeles meeting of the House of Delegates. 'Tis a profound pity he has not. The effort should prove most salutary. Is it not strange, one might ask, that this self-styled authority on health insurance should have failed to acquaint himself with the published conclusions of so important a body as the Royal Commission investigating the subject, which Mr. Hoffman deems so peculiarly his own, in one of the greatest Anglo-Saxon commonwealths of the continent. It is all the more remarkable because Mr. Hoffman once deemed this Commission of sufficient importance to warrant his personal attention and advocacy even if this personal attention was at the request of the Christian Scientists.

But enough of this! The report was printed by the authority of the Legislative Assembly of the province of British Columbia in Canada. It appeared in 1932 from the press of Charles Banfield, printer to the King's Most Excellent Majesty. It bears on its cover the governmental seal of authority. British public documents are considered, as a rule, meticulously authentic. If Mr. Hoffman will read this report he will find the following statements, taken verbatim therefrom, which formed the basis of my criticism of his efforts when I spoke in the House of Delegates. Should he disagree with these statements, the difference lies between himself and the Royal Commission rather than with me.

The Commission states in its report, on page 17, Section 53, that:

> The lone exception, which does not come from Europe or from any country utilizing the scheme, has been voiced by an official of the Prudential Insurance Company of America, Mr. F. L. Hoffman.

It further states in Section 54, page 17, that:

> At the earnest request of the Christian Scientists, we accorded a special hearing to Mr. Hoffman, and his evidence will be found in Volume 3 of Appendix H.

Section 55, page 17, states that:

> A perusal of this evidence discloses, however, that Mr. Hoffman's antagonism to the principle of State health insurance is based, not upon any authentic facts relative to the failure or success of European schemes, but rather upon a general argument in condemnation of the principle of compulsory State health insurance.

Section 56, page 17, states that:

> Other expressions, however, by Mr. Hoffman are clearly valueless in the light of present-day experience, and indicate that his study of European schemes has not been brought up to date.

Section 58, page 18, states that:

> Mr. Hoffman has evidently not followed the later developments of the British system, one particular feature of which has been to give the medical profession an increasing share in the administration of the scheme, and which has largely removed the major dissatisfaction formerly prevalent amongst the profession, as has been conceded by the British medical profession.

Section 59, page 18, states that:

> Mr. Hoffman also says: "Health insurance in the United Kingdom has not improved the health of the wage earner as was expected. The British death rate is the same as the death rate of this country and in all probability with a larger amount of general sickness among the working people."

With Section 60, page 18, the Commission then quotes statements from Lord Lawrence of Kingsgate, head of the Royal Health Insurance Commission, which the Canadians offer in flat contradiction to the statements of Mr. Hoffman, and there are three paragraphs devoted to a contradiction to Mr. Hoffman's testimony, including an official report taken from the British Medical Association, and finally an extensive table is published which was offered by Sir George Newman, the chief medical officer of the British Ministry of Health. This table lists a great many diseases and shows that since health insurance was instituted there has been an average decrease in mortality of 39.55 per cent.

The report then summarizes Mr. Hoffman's evidence in this fashion:

Section 62, page 19:

> In view of these authoritative statements, which are in direct opposition to those of Mr. Hoffman, we are disinclined to attach any practical value to his criticisms as directed against the beneficial effects of State health insurance as practiced in Europe.

It also adds:

> Mr. Hoffman's criticism is mainly directed to conditions which existed more than ten years ago, and which conditions have been steadily improved upon.

And in Section 63, page 20, the Royal Commission summarizes its opinion of Mr. Hoffman's evidence.

> Finally, we refer again to the evidence of Mr. Hoffman in Volume 3, Appendix H, when he was closely questioned by members of our Commission. His evidence reveals, in our view, merely general statements backed up by no reliable facts.

These statements have all been taken verbatim from the report, and I trust that the evidence submitted will show the members of the California Medical Association that it was purely on an impersonal basis that the opinions of Mr. Hoffman have been weighed and found wanting.

490 Post Street, San Francisco.

Rodney A. Yoell, M. D.

Concerning a plan to enlist coöperation of physicians. Important!

Board of Medical Examiners
State of California
420 State Office Building
Sacramento, California
September 27, 1935.

Re: W. B. Mayo Laboratories, Inc.

To the Editor:—We are wondering if any information should be published in the columns of California and Western Medicine relative to the matter mentioned in the enclosed copy of a letter addressed to B. E. McDowell, M. D., Merced, California. . . . The matter is being reported from various parts of the State. . . .

Very truly yours,
(Signed) C. B. Pinkham, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

420 State Office Building
Sacramento, California
September 27, 1935.

Yours of September 6, re Application, W. B. Mayo, M. D., Dr. W. B. Mayo Laboratories, Inc.
B. E. McDowell, M. D.,
201-220 Bank of America Building,
Merced, California.

Dear Doctor:—Many thanks for your letter advising us that an individual named N. B. Crittenden had been soliciting doctors to become connected with the Dr. W. B. Mayo Laboratories, Inc., Medford, Oregon. Representatives of this concern have traveled throughout the State of California endeavoring to secure signatures of doctors to an agreement,* the main feature of which seems to be the payment on the part of said doctor to the representative of the Dr. W. B. Mayo Laboratories, Inc., the sum of $200.

Our investigation department reports that such procedure will add greatly to the financial benefit of the Dr. W. B. Mayo Laboratories, Inc., but it is difficult to understand how the financial returns to the doctor will warrant such an expenditure.

Incidentally, the California medical license of W. B. Mayo, M. D., was revoked October 20, 1931, after a hearing of a complaint charging alleged illegal operation. Said license was thereafter restored, and on February 27, 1933, W. B. Mayo was placed on probation for a period of five years.

Very truly yours,
(Signed) C. B. Pinkham, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

More concerning a company, operating under an out-of-state charter, seeking money from physicians on a lifetime contract. Warning.

A member of the Los Angeles County Medical Association has sent in a marked item from the October 3, 1935, "Bulletin" of that Association, which reads as follows:

> MEMBERS ARE WARNED NOT TO SIGN MEDICINE COMPANY'S CONTRACT
>
> A medicine company operating in Los Angeles with an out-of-state charter has been busy for some weeks, through its solicitors, among the doctors of medicine in Los Angeles County and elsewhere in the State.
>
> Some of these solicitors are armed with letters apparently signed by doctors of medicine who recommend this promotional scheme.
>
> The California Medical Association emphatically urges all of its members to refrain from entering into any contract with this company.
>
> Physicians are approached by solicitors who tell them that they will be appointed to the advisory and consultation staffs of this company, or laboratory, as it is called. To join this staff, however, the physician must sign an agreement to pay a sum of several hundred dollars to the corporation.
>
> Every member is asked to consider this phase of the agreement: The corporation agrees that it will refer to him any lay person in his community who sends an inquiry in relative to the medicine which they manufacture. The physician is also promised a commission on sales in his community.
>
> *The contract, which is presented to the physician for a signature, contains a perinent clause which states that the agreement is for life and cannot be revoked!*
>
> It is understood that these laboratories intend to use the money which they receive from physicians to promote a nation-wide advertising campaign, which campaign would be designed to interest the lay public in their medication. It is hoped that some two million dollars would be so raised.
>
> To interest the physician, this laboratory states that such an advertising campaign will bring many inquiries from laymen as to their ailments; the laboratory then makes this proposition to the doctor: That any inquiries coming to the laboratory from laymen in the doctor's community will be referred to the doctor for treatment.
>
> This phase of the contract is being investigated by the Board of Medical Examiners, possibly because they view it as a wholesale attempt at capping.
>
> Members who have been approached by solicitors for this company, when asked what the medicine was, stated that it was a comparatively simple alkaline compound designed for the treatment of stomach conditions. When asked if it was a secret preparation they said that it was not; that it was a simple compound similar to prescriptions they had often written.
>
> If it be a secret formula, the Code of Ethics is very specific: "It is equally unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way."
>
> Again we may quote from the Code of Ethics on advertising: "Solicitation of patients by physicians as individuals, or collectively in groups, by whatsoever name these may be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional."
>
> It would seem unethical, therefore, for any physician to accept an offer from a medicine company, which offer includes the referring of patients upon the proviso that such a doctor become a member, for a price, of that company's advisory and consultation staff.
>
> The Council of the California Medical Association, after a study of the contract of this company, has expressed its disfavor and recommends that members do not support this form of exploitation.

Concerning article on "Some Facts About Present-Day Medical Student Trends," printed in the September issue, on page 180.

Association of American Medical Colleges
Chicago, September 25, 1935.

To the Editor:—Thank you for your note of the 14th. I am delighted that notice is being taken of the studies we have been making for so many years. The information seems to be appreciated and wanted. No one else has made similar studies.

I have called the attention of our officers to your write-up. I am sure that they, too, will appreciate it.

With kindest regards, I am

Sincerely yours,
Fred C. Zapffe, *Secretary.*

P. S.—It would be well if the medical profession as a whole would take more interest in medical education. Unfortunately, after a man has graduated, he seems to have finished with medical education and promptly forgets all about it. Perhaps if he remembered it some of our economic problems might be solved.

5 South Wabash Avenue.

Why do not medical societies have at least one paper on medical education on their annual programs? Why? F. C. Z.

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* Copy of Agreement is printed on page 319.

Concerning an "X-Ray School Granting Diplomas."

The editor has received a copy of the following letters:

August 24, 1935.

Re: California School of X-Ray,
6331 Hollywood Boulevard, Los Angeles.

Secretary of State,
State Capitol,
Sacramento, California.

Dear Sir:—We would appreciate your advising us whether the records of your office show incorporation of the "California School of X-Ray," reported to have started in 1925 and giving a four months' day course and evening course of six months, thereafter issuing diplomas signed W. B. Carr, M. D., Medical Supervisor; Augustus H. Galvin, M. D., Anatomy; Walter W. Mosher, Assistant Director; Walter D. Finney, D. D. S., Oral Diagnosis; Sydney R. Broadbent, Superintendent of Clinic. According to a report of our investigation department, none of the individuals herein mentioned as signing the diplomas are ever in attendance at the school, which is conducted by S. C. Maranville, owner, director, and entire faculty.

If this institution is of record, please give us the filing date and number, list of incorporators, purposes, place of business, etc.

420 State Office Building,
Sacramento, California.

Very truly yours,
C. B. Pinkham, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

August 29, 1935.

Re: California School of X-Ray.

Albert Carter, Special Agent,
Board of Medical Examiners,
906 State Building,
217 West First Street,
Los Angeles, California.

Dear Mr. Carter:—Your letter of August 16, 1935, to the Los Angeles Better Business Bureau referred to the "California School of X-Ray" operated by S. C. Maranville at 6331 Hollywood Boulevard, Los Angeles, which you stated was issuing diplomas.

Under date of August 26, 1935, we were informed by the office of the Secretary of State that there is no record of a corporation by the name of the "California School of X-Ray." Hence, we wonder how this organization can legally issue diplomas.

We are also much interested in your statement that although said diplomas are signed by W. B. Carr, M. D., Augustus H. Galvin, M. D., Walter W. Mosher, Walter D. Finney, D. D. S., and Sydney R. Broadbent, D. O., none of these individuals, according to your report, is ever in attendance at the school, Maranville being the entire faculty.

Very truly yours,
C. B. Pinkham, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

Concerning the articles on "The Coroner's System," printed in this issue (pages 274 and 275).

Evanston, Illinois,
August 31, 1935.

To the Editor:—Yours of the twentieth has been referred to me, as was your previous letter of July 16, to which I replied.

I was very glad to have the opportunity to read the proof of Doctor Carr's article. I have prepared and enclose herewith some comment on the article. I hope you will not find it too lengthy. I felt that some of Doctor Carr's inferences required rather detailed discussion.

I have sent one copy of the proof to Doctor Ludvig Hektoen, president of the board of governors of the Institute, for three years chairman of the National Research Council's committee on medicolegal problems during the period of its activity, and the man, who, more than anyone else, has directed attention to the problems of legal medicine. I have urged him to make some additional comment. Whether he will do so I have not yet heard; he is a busy man.

If any reprints are to be made of Doctor Carr's article together with such comment as may be published, I would like to order one hundred copies. If no reprints are to be made, I would like to have for my medicolegal files a copy of the Journal in which the material appears. . . .

Trusting that you will not find my discussion of Doctor Carr's article too prolix for your Journal, I am,

Sincerely yours,
Oscar T. Schultz, M. D.

St. Francis Hospital.

P. S.—Since writing the above, I have learned that Doctor Hektoen is in Europe and is not expected back until October. I would suggest that Doctor Carr's paper be not held any longer, since Doctor Hektoen would probably have little to add.

SPECIAL ARTICLES

HOW GRIEVANCES ARE DEALT WITH UNDER THE ENGLISH HEALTH INSURANCE SCHEME*

By G. F. McCleary, M.D.†

There are 16,071,000 men and women in England and Wales insured under the national health insurance scheme, and there are 16,500 insurance doctors. The insured persons, having paid their contributions to the cost of the scheme, are entitled to receive proper medical treatment; the insurance doctors by virtue of their agreements with the local insurance committees are under obligation to give it;[1] and the insurance committees and the Ministry of Health are responsible for ensuring that the doctors' obligations are fulfilled. Where medical services are provided on so enormous a scale, it is inevitable that cases will occasionally arise in which an insured patient considers, rightly or wrongly, that he has not received proper treatment from his insurance doctor; and it is necessary that a procedure should be devised by which such grievances shall be dealt with equitably, expeditiously, and economically.

In some European countries the doctors' obligation to give proper and necessary medical services is enforced by the insurance authorities' selecting the insurance doctors and making them responsible to superior officers for the quality of their work. Failure to do good work may result in the termination of the doctor's appointment. Under the English health insurance scheme there is no selection of doctors by the insurance authorities. Any doctor,[2] however careless, intemperate and incompetent he may be, has the right to join the local panel of insurance doctors, and he has no superior officer to supervise his work. Some safeguard has been provided by giving the persons insured under the scheme the right, which private patients have, to choose, and change, their doctors; a doctor who acquires a reputation for bad work will sooner or later see his list of patients grow smaller and the lists of his competitors larger by the transfer of patients from his list to theirs. But meanwhile some patients may have been seriously damaged; and from the first it was recognized that additional means would have to be provided to secure that insured patients should receive proper treatment. For the great majority of insurance doctors such means are not needed; their professional conscience is sufficiently developed to keep them up to the mark. But among over sixteen thousand doctors it would be unsafe to assume that all may be relied upon to give unfailing attention; and it was generally agreed that it would be necessary to adopt some method for enabling insured patients to bring forward their grievances for adjudication. At the inception of the scheme there were doctors who considered that grievances should be heard in law courts, but by most this was regarded as undesirable. Legal proceedings are expensive; a doctor who has successfully contested an unfounded complaint may be unable to obtain costs from the complainant; and the publicity of a legal action does no good to a doctor's practice. It was therefore agreed to set up in each area a special committee to deal with grievances.

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* Reprinted from August 29 issue of the *New England Journal of Medicine*. See note in California Medical Association department, on page 302.

† McCleary, G. F.: Medical Officer of Health, Battersea, Hampstead, Bedfordshire. For record and address of author see *This Week's Issue*, page 432.

[1] An insurance doctor's obligation in this respect is expressed in his agreement with the Insurance Committee in the following terms: "The treatment which a practitioner is required to give to his patients comprises all proper and necessary medical services other than those involving the application of special skill and experience of a degree or kind which general practitioners as a class cannot reasonably be expected to possess." Treatment in respect of a confinement is, however, expressly excluded.

[2] Except a doctor who has been removed from the panel by the Minister of Health. Removal is a rare event.

THE GRIEVANCE COMMITTEE

Each insurance committee appoints a medical service subcommittee specially constituted to hear complaints against insurance doctors. The subcommittee consists of an equal number, not less than three or more than five, of local medical practitioners and of representatives of insured persons, with a neutral chairman. The subcommittee's function is to investigate the complaint, find the facts and report them to the Insurance Committee, who on the facts so found (which, if no appeal is made, must be accepted as conclusive) decide what action should be taken. Either party may appeal against the decision to the Minister of Health.

The procedure for dealing with grievances will be more readily apprehended if we take an imaginary case and follow it through its various stages. It is similar to cases that have actually occurred.

THE CASE OF JAMES THOMPSON

James Thompson, who is twenty-six years of age, is an insured person and is employed in an iron foundry at a weekly wage of $15. Two years ago he chose Doctor Smith as his insurance doctor and was on his list when the case began. It began when Mr. Thompson awoke about two o'clock one morning with severe abdominal pain, which Mrs. Thompson vainly attempted to relieve with hot applications. Mr. Thompson was reluctant to send for Doctor Smith, who lived about half a mile away, but after enduring the pain for an hour he felt so ill that he asked his brother, a boy of fifteen who lived in the same house, to go to Doctor Smith and ask him to call as soon as possible. The boy arrived at Doctor Smith's house at 3:15 a. m., rang the night bell, and in answer to the doctor's inquiry through the speaking tube, said his brother had been awakened with a "terrible pain in his stomach," and that he felt very ill indeed and wanted the doctor to come around at once. He added that he had brought his brother's medical card with him to show that he was one of the doctor's insured patients. On being asked whether the patient had been sick or had diarrhea he said he did not know, but he was sure that his brother was "terribly ill." The doctor came downstairs, and made up a bottle of medicine, which he gave to the boy, saying that the patient should take a dose at once and another every two hours if still in pain and that he would call after breakfast. Mr. Thompson was greatly disappointed at not seeing the doctor, but he took the medicine, which, since it contained a substantial quantity of opium, relieved the pain considerably. About 11:45 a. m. the doctor called, found that Mr. Thompson was suffering from acute appendicitis and advised immediate removal to the local hospital, where an operation was at once performed by a surgeon on the hospital staff, the case being urgent.

Mr. Thompson made but a slow recovery, which he attributed to the failure of Doctor Smith to visit him when requested and the consequent delay before the operation could be performed. On leaving the hospital he removed his name from Doctor Smith's list to that of another doctor, and lodged a complaint against Doctor Smith with the Insurance Committee. A copy of the complaint was sent to Doctor Smith and the case referred to the Medical Service Subcommittee.

The subcommittee may dispense with a hearing if they deem the complaint frivolous; in this case they decided that a hearing was necessary, and Doctor Smith and Mr. Thompson were asked to attend their next meeting. At this meeting, which like all meetings of the subcommittee, was held in private, neither party being allowed to be represented by a lawyer or other paid advocate, Mr. Thompson, who had received a copy of Doctor Smith's answer to his complaint, gave his account of his illness and his brother told what happened when he called on Doctor Smith. The facts so stated were not disputed by Doctor Smith, except that, according to his recollection, he was called at 4:30 a. m. and not at 3:15 a. m. He said that the messenger's account of the patient's symptoms led him to think that the case was one of ordinary colic; that it was a most inclement night; and that he had a bad cold and was tired out by a hard day's work. When asked why if he felt unable to go out he did not arrange for a deputy to take the call, he said that the idea did not occur to him. He did not think his short delay in visiting the patient had materially affected the progress of the case. He was closely questioned by the doctors on the subcommittee, who seemed less impressed than their lay colleagues by the reasons he gave for his failure to visit the patient when requested.

After hearing the evidence the subcommittee prepared a report to the Insurance Committee, in which they found the facts as stated above,[3] inferred from them that Doctor Smith had failed to render proper service to his patient, and recommended that a sum of twenty pounds ($100) should be withheld from his remuneration. The Insurance Committee adopted the report without discussion and sent a copy to the Minister of Health.

DR. SMITH'S APPEAL

Doctor Smith exercised his right to appeal to the Minister of Health against the decision of the Insurance Committee on the report of their Medical Service Subcommittee. He thought the decision was unwarranted by the facts of the case. In accordance with the regulations governing these cases,[4] the Minister appointed an appeal tribunal consisting of three members: a medical officer and a legal officer of the Ministry of Health, and a medical practitioner selected from a panel of insurance doctors nominated by the British Medical Association. At the appeal both Doctor Smith and the Insurance Committee were represented by competent lawyers, and the witnesses, who gave evidence on oath, were subjected to searching cross-examination. The case concluded, the tribunal drew up a report to the Minister in which they stated that they saw no reason to dissent from the decision of the Insurance Committee.

The Regulations provide that in any case in which an insurance doctor has been found by the Insurance Committee (or by the appeal tribunal in a case in which an appeal has been made) to have been negligent in his treatment of the patient, the Minister shall, before arriving at a decision on the case, refer it to an advisory committee, consisting of the chief medical officer of the Ministry of Health, two other medical officers of the Ministry, and three doctors selected from the panel of insurance doctors nominated by the British Medical Association to which reference has already been made, and shall consider their report on the case. Our imaginary case, which we have now traced to its final stage, would be so referred, and from what has happened in similar cases that have actually occurred it is unlikely that the decision of the Medical Service Subcommittee would be modified.

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[3] The subcommittee's findings of fact must be accepted by the Insurance Committee as conclusive.

[4] The Medical Benefit Consolidated Regulations, 1928.

THE WITHHOLDING OF REMUNERATION

It will be noted that in this case the Insurance Committee, adopting the report of their Medical Service Subcommittee, recommended, with the concurrence of the appeal tribunal, that a sum of twenty pounds should be withheld from Doctor Smith's remuneration. In a case in which money is withheld, the Minister deducts the sum from the moneys paid by him to the Insurance Committee for providing medical services, and the committee deduct that sum from the next payment made to the doctor. During 1933, remuneration was withheld from eight insurance doctors who had been negligent in the treatment of their insured patients.

REMOVAL FROM THE PANEL

The most severe action that can be taken against an insurance doctor under the disciplinary procedure of the health insurance scheme is removal from the medical list, or "panel," as it is colloquially termed. This action may be taken by the Minister of Health if he is satisfied that the doctor's continuance on the panel would be "prejudicial to the efficiency of the medical service of the insured." A case of removal usually originates in a representation made by an insurance committee to the Minister of Health that the continuance of a certain doctor on the panel would be prejudicial to the medical service; and on receiving such a representation the Minister must appoint an inquiry committee, consisting of a lawyer (barrister or solicitor) in actual practice and two doctors. The committee hear the allegations made against the doctor and his reply; the witnesses give evidence on oath, and the parties are legally represented. The committee do not decide the question of removing the doctor from the panel; their business is to report to the Minister, stating the facts that appear to them to be established by the evidence and the inferences of fact which, in their opinion, may properly be drawn from the facts so established. The decision to remove or not to remove a doctor from the panel rests with the Minister, but before deciding he must refer the Inquiry Committee's report to the Advisory Committee mentioned above and must take their recommendations into consideration.

Very few doctors have been removed from the panel. In 1933 there was no case in which the question of removal was raised.

Complaints against insurance pharmacists are dealt with by a similar procedure, the complaints being heard by committees on which pharmacists are represented. There is, however, no advisory committee to deal with cases in which pharmacists are concerned.

It will be noted that in the procedure of the English health insurance scheme for the settlement of grievances the medical profession takes a highly important part. At every stage in the proceedings the medical aspects of the case are adequately brought to the consideration of the authorities responsible for decisions, and the medical members of the various tribunals are nearly all insurance practitioners familiar with the conditions of insurance practice. The procedure was not devised by the Government and imposed on the doctors; it is the result of many conferences between the Government and the accredited representatives of the medical profession. It has been modified from time to time, chiefly by increasing the disciplinary responsibilities of the profession, and after twenty-two years' experience it is generally regarded as an equitable, effective, and satisfactory method of dealing with grievances.

CONTRACT OF THE OUT-OF-STATE COMPANY

Referred to in Letters (see page 316, first column)

AGREEMENT

This Agreement made and entered into this .... day of ...., 1935, at Medford, Oregon, by and between Dr. .... Laboratories, Inc., an Oregon Corporation, hereinafter referred to as first party and ...., city ...., state ...., hereinafter referred to as second party,

WITNESSETH:

That Whereas, first party is engaged in the business of distributing certain pharmaceutical products and in connection therewith intends to appoint and retain a number of consultant physicians, and

Whereas, second party is a physician licensed to practice medicine in the state of ...., and is desirous of being appointed by first party as one of its consultant physicians within the territory where said second party is licensed to practice,

Now, Therefore, in consideration of the promises and the mutual agreements hereinafter contained, it is agreed by and between the parties hereto as follows, to wit:

First: First party herewith retains and appoints second party as its consultant medical advisor within the territory wherein second party is now practicing.

Second: Second party agrees that he will act as consultant and medical advisor to first party within the territory where he is now practicing and will hold himself ready and available to see, examine, consult with and advise patients that may be referred to him by first party upon the specific agreement, however, that payment for such special services shall be made to said second party by the patients themselves, and first party shall not be liable nor responsible therefor. First party, however, shall have the privilege of referring to second party any person making inquiry of first party for medical treatment within the territory wherein second party is now practicing.

Third: Second party agrees to serve first party as its consultant and medical advisor within the prescribed territory and to render said first party such counsel and advice in medical matters as first party shall require of second party and as compensation for such services to second party, first party agrees that out of the gross receipts from the total sales of its products, first party shall cause to be set aside into a special fund for such compensation a sum equal to not more nor less than five per cent (5%) of all moneys obtained through the total sale and distribution of its products. This compensation fund shall be equally and ratably prorated and disbursed to all of the consultant physicians which first party shall appoint, and first party shall have the privilege of limiting the number of consultants to be appointed within its own discretion. Said disbursements to be made semi-annually on January 1 and July 1 of each and every year beginning January 1, 1936.

Fourth: First party herewith acknowledges receipt from second party of the sum of Two Hundred Dollars ($200) in full payment for listing second party's name as a consultant and advisory physician upon all lists of consultant physicians prepared, published or distributed by first party among the users of its products during the life of this agreement, and first party agrees that all such lists so prepared and distributed among the users of its products shall include the name of second party, until said second party shall request the exclusion of his name from such list. Before distributing such list, the proof shall be submitted to second party for his approval.

Fifth: All communications to first party under this contract shall be addressed to its Home Office at ...., Oregon.

Sixth: It is agreed that this contract shall be binding upon both parties as long as first party shall remain in business and so long as said second party shall continue the practice of medicine. Should said first party sell or otherwise dispose of said business, the obligations hereunder shall be binding upon and assumed by any successor of first party. In the event of the death of said second party, all benefits accruing to said second party shall pass to his heirs or assigns.

Seventh: No person or agent has any authority to make any representations other than those contained within this agreement, and second party acknowledges and agrees that in executing this agreement he has not relied upon any representations other than those contained within this agreement, and that this is the entire agreement of the parties. This agreement is not binding until received by first party and accepted by it.

In Witness Whereof, said .... Laboratories, Inc., has caused this Instrument to be executed by its duly authorized officers and the seal of the corporation to be affixed thereto, and second party has affixed his signature thereto the day and year first above written.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 10, October, 1910

From Some Editorial Notes:

Please, please, *please,* read the editorial notes in this issue which refer to advertising and advertisers—and not only read them, but also think about them—and then act. It is just as important for you to regard with serious interest this matter of advertising as it is for you to consider any other matter connected with your *Journal.* And just remember, please, that it is your *Journal.*

. . . You cannot get along without coöperation; get busy and coöperate; help the Advertising Committee; help your own *Journal*; help yourself to a little information; boost! It does not take much time, once a month, to look through the *Journal* and write to one or two advertisers; do it. You have done it before, for we have had other reports from advertisers; do it again; keep on doing it; get the habit and then do not lose it; let the advertisers know that you are alive and also that they are.

* * *

A Word to Our Advertisers.—Commenting upon our request to our members to ask all detail men and agents if their house advertises in the *Journal,* and if not, why not, one of our advertisers makes an excellent suggestion in a letter recently received.

* * *

Personal Mention.—When the *Journal* was started, a question of policy arose and received considerable discussion by the Publication Committee: Should a column or more of personal items be published each month? "Doctor Doe has gone to Europe; Doctor Roe has returned; Doctor Jones has visited the South; Doctor Brown of Los Angeles has been staying in San Francisco"—and that sort of thing. It was then decided not to publish a department of this sort. Several times since then the question has been raised, and each time it has been similarly decided. It was reasoned that if the *Journal* published an item to the effect that Doctor Doe had gone to Europe and did not note the fact that Doctor Roe—also a member—had likewise gone to the same place, Doctor Roe might feel slighted and feel a certain amount of resentment against the Society. Obviously, it would be practically impossible to secure reliable information of the movements of every member of the Society, and thus a good many members would, from time to time, be slighted and an injury would result to the Society that would be more serious than the omission of all personal items. . . .

* * *

Railway Surgeons.—The eighth annual meeting of the Pacific Association of Railway Surgeons, which was held in San Francisco toward the end of August, was a very successful one in every way. . . . The officers elected for the coming year are as follows: President, Dr. O. D. Hamlin, Oakland; first vice-president, Dr. Wallace I. Terry, San Francisco; second vice-president, Dr. Robert T. Legge, McCloud; treasurer, Dr. E. M. Keys, Alameda; and secretary, Dr. G. R. Carson. . . .

From an article on "Indications and Contraindications for the Use of Spinal Anesthesia" by Asa W. Collins, M. D., San Francisco.

After careful review of the literature on spinal anesthesia published in the foreign as well as our Ameri-

(Continued in front advertising section, page 20)

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* This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA*

By Charles B. Pinkham, M.D.
Secretary-Treasurer

News

Correction.— In the August, 1934, issue, on advertising page 18, a newspaper clipping was printed concerning Dr. LeRoy Schultz of Glendale. The clipping stated that Doctor Schultz had been arrested on a charge of conspiracy to harbor a criminal.

Our attention has now been called to the fact that Doctor Schultz was acquitted of the charge, and we print the following news item of date of March 5, 1935, which has been sent to us:

> Dr. LeRoy Schultz, a Glendale physician, and four other defendants were acquitted in Judge William C. Doran's superior court of charges of conspiracy to harbor a criminal.
>
> The district attorney's office submitted to the judge a transcript of the preliminary examination of the defendants. No other testimony was taken in the trial. The verdict of acquittal was rendered when the case was called on March 5.
>
> The other defendants were William H. Zundellowitz, Mrs. Susie Zundellowitz, Charles Gross, and Mrs. Eleanor Gallup.
>
> The five were charged with conspiring to harbor Flora M. Carter and H. A. Reese, who had been convicted of felonies and hid from officers while out on bail. Mrs. Carter and Reese were subpoenaed for the trial from San Quentin, where they are serving sentences.

"Ninety-seven physicians and surgeons, led scholastically by Arthur L. Schultz of Ontario, California, and one chiropodist, have successfully passed the State Board of Medical Examiners, it was announced today. Schultz, a graduate of the University of Southern California, School of Medicine, received 89 7/9 per cent. . . . The lone chiropody applicant was Robert James Riddell, Glendale. . . ." (San Francisco *Call-Bulletin,* September 10, 1935.)

"Cod and halibut-liver oils are medicines. So today ruled Attorney General U. S. Webb in an opinion handed down at the request of the California State Board of Pharmacy. The ruling was requested to safeguard the public health by maintaining the medical status of the oils and requiring that they be sold only by pharmacists qualified to determine their purity and quality in keeping with the standards established by the United States Pharmacopeia. The opinion makes them subject to taxation under the Retail Sales Tax Act." (San Francisco *Call-Bulletin,* September 9, 1935.)

"Faced with arrest on a forgery charge in San Francisco, Dr. Alton B. Mortensen, 37-year-old president and manager of a Hollywood medical laboratory, and prominent in Las Vegas from 1929 to 1931, chose death by one of the most deadly poisons known Thursday night, according to word received here today. . . . Mortensen came to Las Vegas from Salt Lake City in 1929 as the representative of an insurance company. . . . Later he joined Dr. F. M. Ferguson in the formation of a health insurance company. . . . This venture proved unsuccessful. . . He founded the Nes-Netrom Medical Laboratory in Hollywood. . . . The nature of the charges against him were rather vague, according to press reports, which stated that a Mrs. Mary A. Russell of that city had signed a complaint charging the doctor with forgery after he assertedly obtained $3,000 from her as an investment in a hospital association. The dispatches said he signed the name of Dr. F. N. Fergensen to a promissory note. Police records in Los Angeles show that Doctor Mortensen was arrested in San Francisco in 1932 on a

(Continued in front advertising section, page 22)

---

* The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6.

A System for the
Collection of Fees
that has proved its worth

Our bookkeeper fails to find your account settled on our books. Please help him out.

PAST DUE!

☞ *This Account has no doubt escaped your notice. Will you please favor us with a remittance by return mail and oblige?*

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Our records show that several statements and reminders have been sent you regarding the enclosed statement.

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You appreciate, we are sure, that physicians, like other citizens, must pay their bills promptly. They can only do so, however, when their own clients in turn pay them promptly for such professional services as may have been rendered.

A check to cover your account, which is now considerably overdue, will be appreciated.

Final Notice

In practically all businesses the custom which is generally followed with overdue accounts is to send such to a collecting agency.

Our bookkeeper has nothing in the records of the office to show when you intend to pay the enclosed account. Perhaps the previous statements and reminders may have been overlooked or ignored.

Following the rule of this office, this overdue account will be sent to the collecting agency within ten days if arrangements for its settlement are not made prior to that time.

This collection bureau method is disagreeable to us; and we believe, also to you. By promptly sending your check all this can be avoided.

When an account is sent to the collecting agency that organization takes full charge of it thereafter.

In the September, 1927, issue of California and Western Medicine, page 398, appeared an article relating to the "collection of fees." Following this publication so many orders were received by us for printing the series of gum stickers and notices, we decided to print and stock the series in large quantities.

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You, too, can profit by using the system for your delinquent accounts. They are inexpensive and easy to use.

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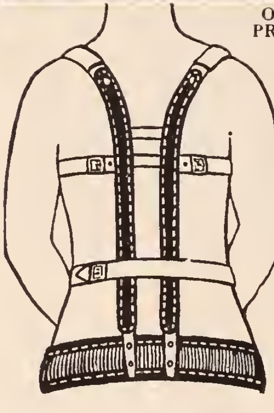

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Certified Milk Permissive — Pasteurization Voted—Elect New Association Officials.—Permissive pasteurization of certified milk was voted into the official Methods and Standards for the Production of Certified Milk at the close of the two-day joint annual conference of the American Association of Medical Milk

(Continued on Page 37)

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HALIVER OIL

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MEDICAMENTA VERA
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100 Soluble Gelatin Capsules No.198
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With other fish liver oils. Each capsule (3 minims) equals not less than 4 teaspoonfuls (fluidrachms) of Cod-Liver Oil containing 600 units, U. S. P. (1934 Rev.) per gram in Vitamin A potency and 10 drops of Viosterol in Vitamin D activity.
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Can vacation sunshine satisfy your patients' requirements for vitamin D for the entire year? Study of vitamin D storage in the human body indicates that the summer surplus is rapidly depleted.

Nor can we assume that the summer affords a reserve of vitamin A, the vitamin associated with maintenance of the integrity of mucous membranes. This factor should be supplied in abundance throughout the Fall and Winter seasons.

These two important vitamins, A and D, can be administered conveniently and palatably by means of Haliver Oil with Viosterol. This product is of particular advantage for use with infants and small children; the required dose can be dropped on the tongue or added to the food formula as desired.

Haliver Oil with Viosterol is supplied in 5-cc. and 50-cc. vials with dropper, and in 3-minim capsules, boxes of 25 and 100.

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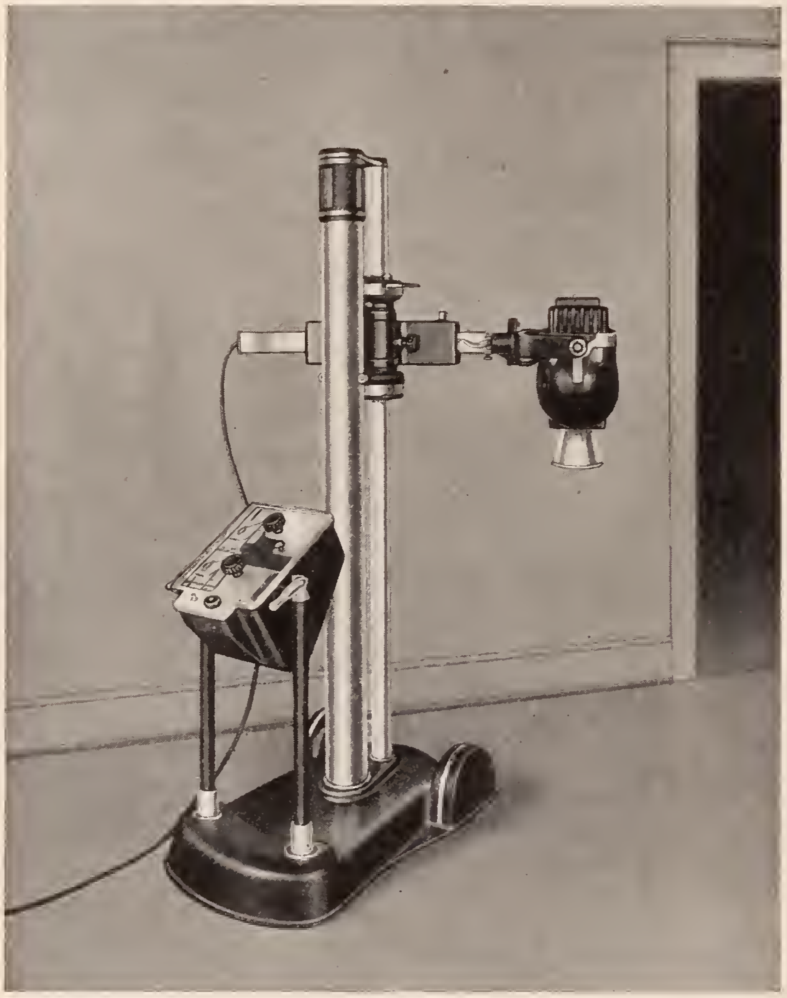

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(Continued from Page 34)

Commissions and the Certified Milk Producers' Association of America held at Atlantic City during the American Medical Association session of 1935.

The action allows producers of certified milk throughout the United States to market a pasteurized certified milk as well as the widely known unpasteurized product. No obligation to pasteurize all certified milk is involved, as the action was merely permissive. Physicians who attended the conference hailed the step as one of the most forward-looking developments in the history of certified milk.

Dr. Hugh L. Dwyer of Kansas City, Missouri, retiring president of the A. A. of M. M. C., urged aggressiveness in promoting certified milk by adopting permissive pasteurization, by reducing the price spread between it and Grade A pasteurized milk and by stressing its value for older children as well as infants. "Scare" advertising used competitively in the past, both by producers of certified milk and by advocates of pasteurization, was deprecated by Doctor Dwyer, who asserted that, as a result, many people are afraid of milk even though it is "by far the most important article of diet, and from the standpoint of food value the cheapest food we have."

"In the past milk has been considered only as a food, but in the future we must realize that it is in combination both a medicine and a food," it was declared by Dr. J. C. Norris of Grady Hospital, Atlanta, Georgia. "Every physician should inspect the dairy whose milk he recommends and should recall the fact that inasmuch as he would not prescribe inferior drugs for his patients, he should not prescribe inferior milk."

The use of milk in the treatment of pelvic infections, nervous dyspepsia, asthenia, anemia, and angina pectoris was discussed by Doctor Norris. "The clinicians have long recognized that angina attacks are related to faulty diet and overeating. I suggest that milk carbohydrate administered as whole fresh milk and lactose by mouth, in conjunction with insulin, should produce results. This appears to be a very valuable use of milk in a serious disease and a new field of research opens," he said.

(Continued on Next Page)

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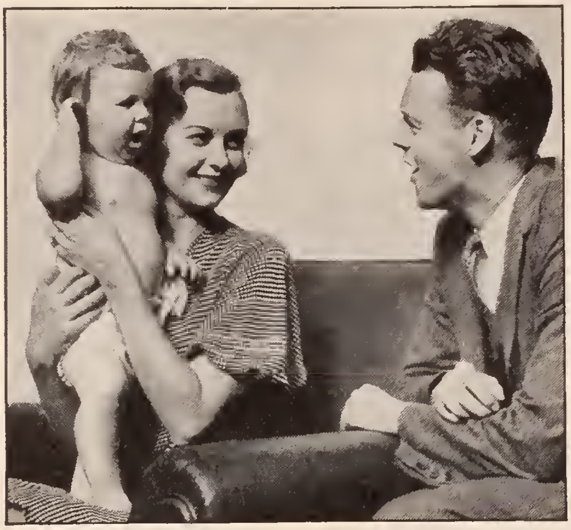

Maybe they are *your* patients

THEY'RE a healthy, happy young couple—proud in the possession of their first baby.

Though they are average people in average circumstances, they are as sure as anyone reasonably can be that their little one will develop normally — grow tall, straight and strong — have firm, sound teeth and bones.

For there was no deficiency in the mother's diet during pregnancy or lactation. There will be no deficiency in the *child's* diet as she grows older. Their doctor advised them, and faithfully they followed his advice. Now — because their child is well-formed, well-developed, sturdy — they have the utmost faith and confidence in their doctor and *will continue to follow his suggestions.*

***Why doctors recommend* Cocomalt**

Cocomalt is an honest product, honestly advertised—accepted by the Committee on Foods of the American Medical Ass'n. Prepared according to directions, it adds 70% more food energy value to milk—increasing the protein content 50%, carbohydrate content 170%, calcium content 35%, phosphorus content 70%.

Cocomalt is rich in Vitamin D, containing not less than 30 Steenbock (81 U.S.P. revised) units per ounce. It is delicious; children and adults enjoy it. It is high in food-value — low in price. Recommended in all cases requiring *extra nourishment without digestive strain.*

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A DOCTOR SAYS:

"What hurts is to have a case like hers and put into it every care and service we are able to and then later have her get into the hands of some starving attorney and bring suit."

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MEDICAL PROTECTIVE COMPANY
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(Continued from Preceding Page)

Dr. J. Gurney Taylor of Milwaukee, Wisconsin, secretary of the Milk Commission of the Milwaukee Academy of Medicine, stressed the necessity for disseminating fundamental facts about the nutritional values of certified milk to members of the medical profession as well as to the public. The general medical practitioner's knowledge of certified milk is frequently surprisingly limited, Doctor Taylor asserted. Contacts with the medical schools, whereby the facts about certified milk could be imparted to the students at some period of their instruction, were suggested.

Dr. Richard S. Eustis, secretary, Medical Milk Commission of Boston, described that city's experience since 1930 with the optional pasteurization of certified milk. "Standards have not been lowered in any way," he said. "They have been maintained and in some respects strengthened. The public, medical and lay, has demonstrated its approval by an increasing demand for pasteurized milk."

A resolution passed by the American Medical Association at its meeting in Portland in 1929 was read by Dr. W. W. Bauer, Director, Bureau of Health and Public Instruction, American Medical Association. "This resolution, by implication, endorses pasteurization of all milk and therefore includes certified milk," he said.

"It is not a vain hope to expect that scientifically minded men with vision, determination, and confidence will critically analyze our present knowledge of milk in the light of the newer knowledge of nutrition, and that this information will inspire them to renewed and sustained research in which physiological chemists and physicians may all sympathetically join," was one of the assertions made by Dr. William Weston of Columbia, South Carolina.

Dr. L. T. Wilson of Borden's Walker-Gordon Laboratory Company, Plainsboro, New Jersey, in discussing "Certified Milk from a Nutritive Standpoint," said: "The vitamins in milk are influenced mainly by the

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food of the cow and the handling of the milk after it comes from the cow. Certified milk producers, due to their special interest in high-quality milk and to their contacts with research workers and the medical profession, are in a position to apply to the best advantage our constantly unfolding knowledge of nutrition."

Dr. Paul B. Cassidy, chairman, Milk Commission of the Philadelphia Pediatric Society, cited the following reasons why doctors should specify certified milk: "It is the only milk which is produced under the supervision of a committee of medical doctors. It was produced at the request of the medical profession to further aid them in the planning of child welfare. It supplies uniform, nutritive values not found in ordinary milk."

Dr. James A. Tobey, Director of Health Service, the Borden Company, urged the formation of a Certified Milk Association, utilizing all ethical promotional devices which would induce the public to consume certified milk, preferably pasteurized, in increasing quantities.

Dr. John L. Rice, New York City Commissioner of Health, and Dr. Reginald M. Atwater, executive secretary, American Public Health Association, were among the speakers who also endorsed the permissive pasteurization of certified milk.

Dr. Milton J. Rosenau, professor of preventive medicine and hygiene at Harvard University, was elected president of the American Association of Medical Milk Commissions. He is a member of the Science Advisory Board appointed by President Roosevelt to put science to work. In 1934 he was president of the Society of American Bacteriologists, and in 1933 he was given a medal by the American Public Health Association "for distinguished work in Public Health."

He most lives who thinks most, feels the noblest, acts the best.—Philip J. Bailey.

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CHILDREN—as we have found out—are more critical of flavor in milk than adults. The slightest change in flavor touches their delicate palate at once—and mother has a milk rebel on her hands.

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The Colfax School for the Tuberculous offers the following advantages:

1. Patients are given individual care by experienced tuberculosis specialists. The patient is treated according to his individual needs.

2. Patients are taught how to secure an arrest of their disease, how to remain well when once the disease is arrested, and how to prevent the spread of the disease.

3. Patients have the advantage of modern laboratory aids to diagnosis and of all modern therapeutic agencies.

4. The climate of Colfax enables the patient to take the cure without discomfort twelve months in the year. We believe climate is secondary to medical supervision and rest, but the fact remains that it is easier to "cure" under good climatic conditions than where these climatic conditions are absent.

5. Colfax is accessible. It is on the main line of the Ogden Route of the Southern Pacific R. R. and has excellent train service. It can be reached by paved highway, being on the Victory Highway, with paved roads all the way to Colfax.

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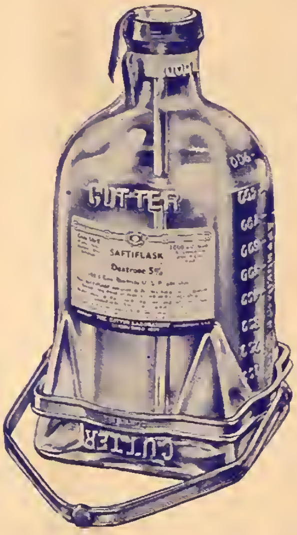

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American Medical Association, Kansas City, May 11–15, 1936
California Medical Association, Coronado, May 25–28, 1936

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NOVEMBER · 1935

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And I will give them a power and a fleetness
That shall outdistance all sickness
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BOOK REVIEWS

List of Books Received

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Free Medical Care. Socialized Medicine. By E. C. Buehler, Director of Forensics, University of Kansas. Cloth. Pp. 360. Price, $2. New York: Noble & Noble, 1935.

Individual Exercises. Selected Exercises for Individual Conditions. By George T. Stafford, M. D., Director of Corrective Physical Education, University of Illinois; Harry B. DeCook, M. D., Director Corrective Physical Education, Northwestern University; and Joseph L. Picard, M. D., Director Corrective Physical Education, University of Arizona. Paper. Pp. 111, with 100 illustrations. Price, $1. New York: A. S. Barnes & Company, Inc., 1935.

Diseases of the Skin. By Frank Crozer Knowles, M. D., Professor of Dermatology, Jefferson Medical College; Colonel Medical Reserve Corps, United States Army; Dermatologist to the Jefferson, The Pennsylvania, the Presbyterian and the Babies' Hospitals. Third edition, thoroughly revised. Cloth. Pp. 640, with 240 illustrations and eleven plates. Philadelphia: Lea & Febiger, 1935.

The Pathology of Internal Diseases. By William Boyd, M. D., M. R. C. P., Ed., F. R. C. P., Lond., Dipl. Psych., F. R. S., Can. Professor of Pathology in the University of Manitoba; Pathologist to the Winnipeg General Hospital, Winnipeg, Canada. Second edition, thoroughly revised. Cloth. Pp. 904, illustrated with 335 engravings. Price, $10. Philadelphia: Lea & Febiger, 1935.

Diseases of the Nose and Throat. For Practitioners and Students. By Charles J. Imperatori, M. D., F. A. C. S., Professor of Clinical Otolaryngology, New York Postgraduate Medical School, Columbia University, New York, and Herman J. Burman, M. D., Instructor of Clinical Otolaryngology, New York Postgraduate Medical School, Columbia University, New York. Cloth. Pp. 723, with 480 illustrations. Price, $7. Philadelphia; J. B. Lippincott Company, 1935.

Klinik und Therapie der Allergischen Krankheiten. Von Dr. Erich Urbach, Privatdozent für Dermatologie an Der Universität Wien, I. Assistent Der Universitätsklinik für Geschlechts und Hautkrankheiten in Wien. Mit 302 Abbildungen und 24 Tabellen, Davon 26 Mehrfarbige Abbildungen auf 11 Tafeln und im Text. Wien: Verlag Von Wilhelm Maudrich, 1935.

A Marriage Manual. A Practical Guide Book to Sex and Marriage. By Hannah M. Stone, M. D., Medical Director of the Birth Control Clinical Research Bureau and of the Marriage Consultation Centers at the Community Church and Labor Temple, New York, and Abraham Stone, M. D., Adjunct Urologist at the Sydenham Hospital, Co-Director of the Marriage Consultation Centers at the Community Church and Labor Temple, New York. Cloth. Pp. 334. Price, $2.50. New York: Simon & Schuster, 1935.

Spanish Influence on the Progress of Medical Science. With an Account of The Wellcome Research Institution and the Affiliated Research Laboratories and Museums Founded by Sir Henry Wellcome, LL. D., D. Sc., F. R. S. Commemorating the Tenth International Congress of the History of Medicine held at Madrid, 1935. Cloth. Pp. 121. London: The Wellcome Foundation, Ltd., 1935.

The Delinquent Boy and the Correctional School. By Norman Fenton, Director of the California Bureau of Juvenile Research. With the collaboration of Jessie C. Fenton, formerly Psychologist, Whittier State School;

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NEW MEDICAL BOOKS

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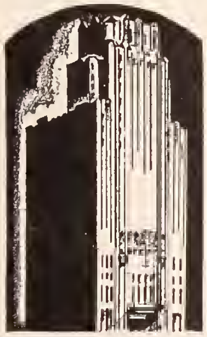

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(1) Journal Nutrition 8, 449 (1934)
Journal American Dietetic Association 9, 295 (1933)
Journal Pediatrics 6, 749 (1932)

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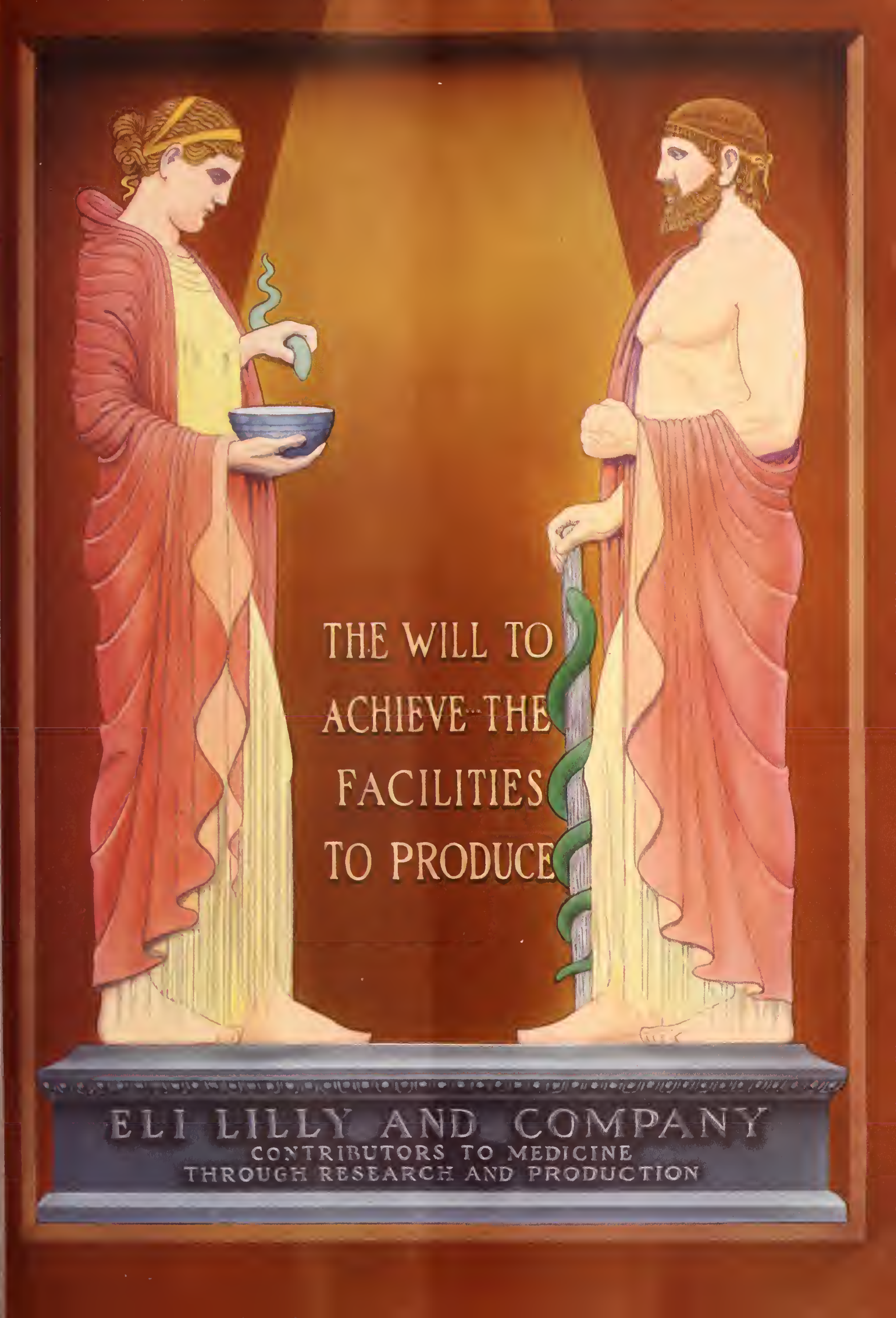
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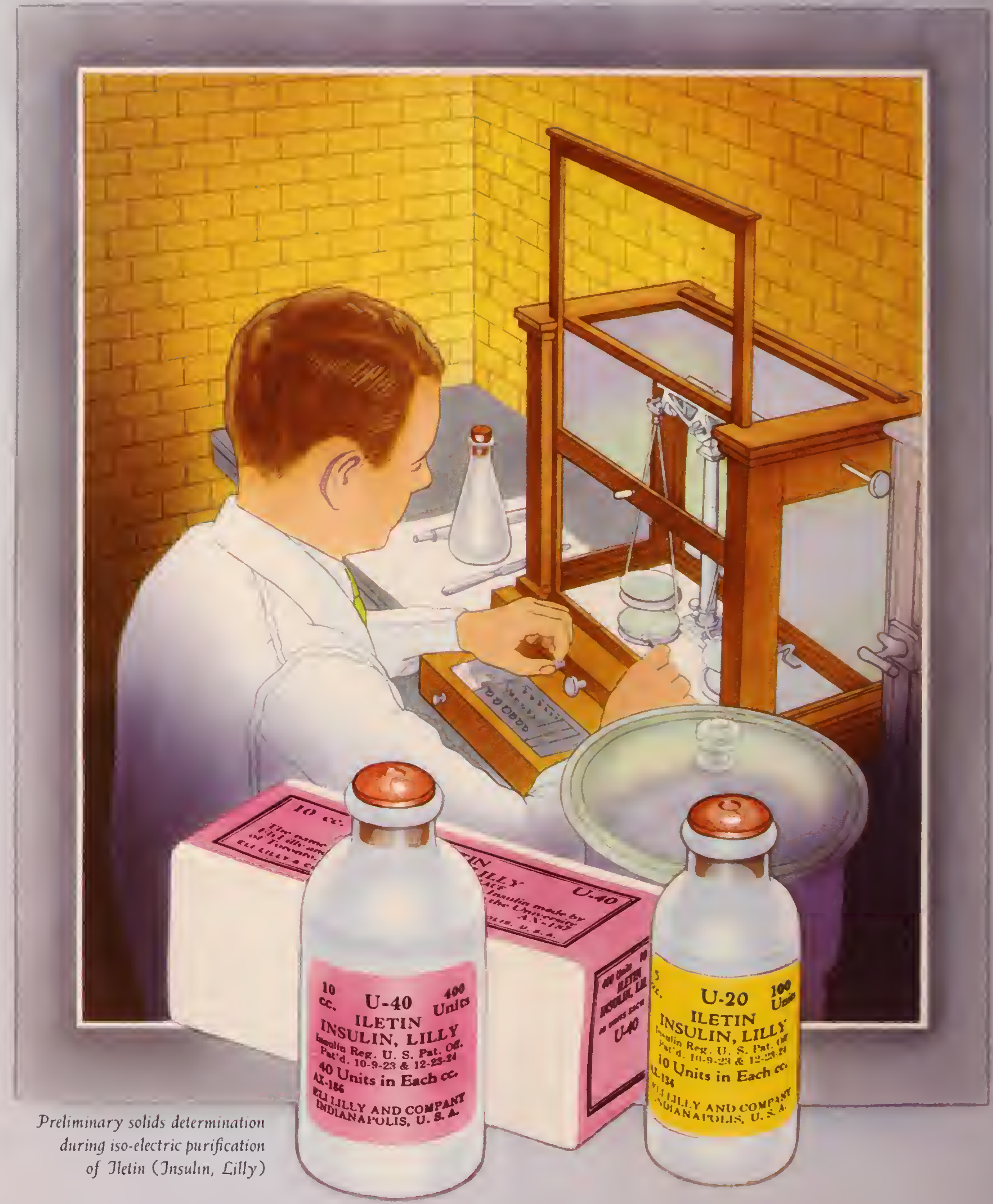
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BOOKS RECEIVED

(Cont'd from Page 11)

Margaret E. Murray, formerly Research Assistant California Bureau of Juvenile Research; and Dorothy K. Tyson, Psychologist, Whittier State School. Paper. Pp. 182. Price, paper, $1.50; cloth, $2. Claremont: Claremont Colleges Guidance Center, 1935.

Some Facts About Nursing. A Handbook for Speakers and Others. Paper. Pp. 46. Prepared by The Nursing Information Bureau of the American Nurses' Association coöperating with The National League of Nursing Education and The National Organization for Public Health Nursing, 1935.

Diabetes. The Malady of Our Time. A Manual. Etiology, Course and Treatment of "Diabetes Mellitus." Aspects of Diabetes Mellitus in the Light of Modern Research. By Dr. Levy-Lenz and Dr. Heinz Schneidler. Paper. Pp. 64, with illustrations. Price, $1.15. Berlin: A. K. Verlag, 1935.

BOOK REVIEWS

Methods of Treatment. By Logan Clendening. Fifth edition. Pp. 789. Illustrated. St. Louis: The C. V. Mosby Company, 1935. Price, $10.

In the present edition of this book the general subject of therapeutics is presented in a well organized manner, the frequent use of reproduced charts and long quotations often lending color to the clear and concise style which distinguishes this work from many other monographs on the same subject. It may be remarked in this connection that an adequate bibliography is appended to each of its chapters, that the text is well illustrated and that the book is provided with a satisfactory index.

However, in some respects this admirable work seems to be not as completely revised as one might wish. This appears to be especially true as to the section on drugs, less so as to the section on physiotherapy; for in these sections the author at times makes statements which he subsequently contradicts. Thus as regards the treatment of an attack of bronchial asthma, on page 167 he advises the use of morphin and atropin as the chief remedial agencies, stating also that "adrenalin may be tried"; while, on later pages, with respect to the management of such an attack, he describes in turn the use of adrenalin, ephedrin and synephrin.

In regard to his attitude toward the use respectively of vaccine therapy and serum therapy the author is extremely conservative and probably wisely so—though one may hesitate to accept his condemnation of the Type I anti-pneumococcus serum. He also displays a similar well justified conservatism about preparations derived from the ductless glands, though the chapter on this subject is excellent and up to date. In the chapter that has to do with the selection of foods the latitude advocated as to the choice of a diet appears wise; and the tables displayed as to food values, recipes and menus should prove useful—one would like to find here also a table giving the sodium chlorid content of various foods. Of the "Line-Ration" diet scheme it may be said that it appears to be a superfluous addition to the well known Joslin regime; besides, it includes many foods rarely used in American dietary prescriptions.

Limitations of space perhaps account for a number of omissions—notably as to the technique of the Levine nasal gastric tube and the use of the Drinker respirator; and doubtless a number of physicians will find themselves not in accord with some of the author's recommendations in regard to the administration of digitalis; nevertheless, this is an important and worthy reference volume with respect to a large majority of the therapeutic measures now employed.

(Continued on Next Page)

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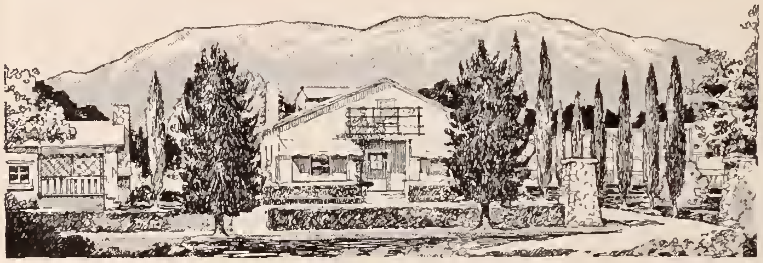

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BOOK REVIEWS

(Continued from Preceding Page)

A Textbook of Surgery for Students and Physicians. By W. Wayne Babcock. Second edition. Pp. 1312. Illustrated. Philadelphia and London: W. B. Saunders Company, 1935. Price, $10.

The second edition of this excellent text should instill pride in the heart of every American surgeon. In this single volume is incorporated what should be known about general surgery. What the author has to say is backed by a wealth of personal practical experience which makes the material suitable to both general surgeon and medical student. The arrangement of material, uniformity of presentation, clarity and profuseness of illustrations stamp the volume as a worthy addition to the present high standard of American surgery.

Much of the text will be found to be written with new sections on those systems and organs which have recently come into prominence. From such a vast accumulation of easily readable material it is difficult for the reviewer to pick one part or chapter over another. The chapters dealing with the peritoneum and the vermiform appendix are particularly good. The colored plates illustrating these chapters give a picture the student will remember forever and cannot but help decrease the present mortality from acute appendicitis.

The technique of all the important operations mentioned in the text is at least briefly described and very frequently elucidated by illustrations. The newer anesthetics and the technique of their administration are considered; spinal anesthesia is thoroughly covered so as to show that most of the serious complications of this anesthetic are preventable.

One could continue endlessly in reviewing the many merits of this volume, but the reviewer feels the discussion of the text can best be closed by recommending it unreservedly both to medical student and practicing surgeon. H. W. S.

(Continued on Page 20)

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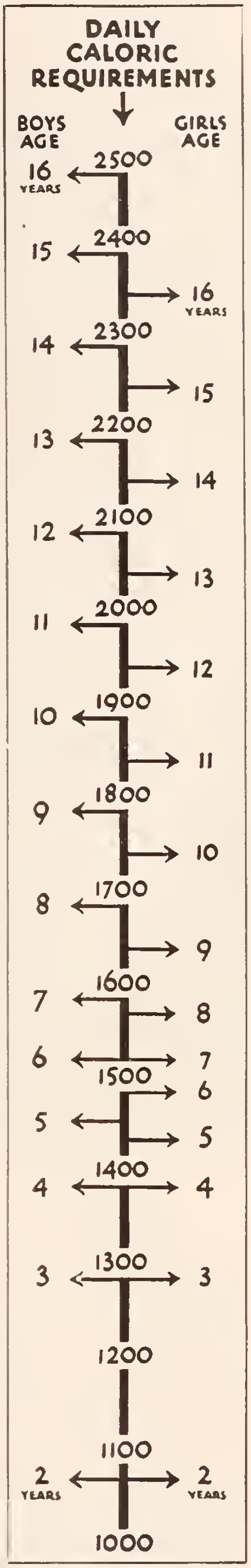

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BOOK REVIEWS

(Continued from Page 18)

Diabetes Mellitus and Obesity. By C. P. Duncan. Pp. 215. Philadelphia: Lea & Febiger, 1935.

In this refreshing treatise on diabetes and obesity the author not only points out the interrelation between these two morbid states, but he also discusses each one of the two conditions separately as a clinical entity.

This manual differs from others of its kind in one seemingly important particular, since as regards the standpoints respectively of the physician, the patient and the nurse, the subject of treatment is outlined practically and specifically. Indeed the information it gives as to diet calculations, the classification of foods especially suitable for diabetics, and also as to the use of substitute foodstuffs and as to the actual arrangement of diets by example is so definite as to be a great boon to the practitioner or student; for often such problems must be solved without a dietitian's help.

The author deals in similar fashion with the problem as to the therapy of obesity. However, with respect to the causative agency, it would seem, instead of three per cent, as stated by the author, that in perhaps two-thirds of the instances cases of obesity represent endocrin deficiencies. W. A. R.

TWENTY-FIVE YEARS AGO

(Continued from Text Page 392)

Scientific Review.

"A Review of Some Points in Cerebral Physiology, with Reference to Their Application to Surgery of the Brain" by Sol Hyman, M. D., San Francisco.

The rigid cranium containing the brain is closely lined by the dura mater. The nervous organ, with its pia, is separated from the dura mater by the arachnoid membrane. The subarachnoid space (between arachnoid and pia) normally contains a greater or less

(Continued on Page 22)

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TWENTY-FIVE YEARS AGO

(Continued from Page 20)

amount of cerebrospinal fluid. This fluid is probably secreted by the ependymal covering of the choroid plexus in the ventricles of the brain; and passes through the aqueduct of Sylvius, through the foramina of Magendie, and Key and Retzius into the subarachnoid space. A minimal amount of fluid normally exists between arachnoid and dura. . . .

BOARD OF MEDICAL EXAMINERS

(Continued from Text Page 392)

United States Marshal, and appeared before Brown in Sacramento. Bonds in the sum of $5,000 have been obtained. . . . Doctor Snypp was released upon verification of the bonds and his trial has been set for November 4 in the Federal Court in Sacramento. . . . Four addicts, for whom Snypp is accused of issuing prescriptions for morphin, have been sentenced to federal penitentiaries on narcotic traffic. The indictment against the physician named seventeen separate violations of the Harrison Narcotic Act and the Jones-Miller Narcotic Act. Six users of narcotics were named in the indictments as having received prescriptions for drugs from Snypp. . . ." (Auburn *Journal*, October 10, 1935.)

"Dr. Walter M. Dickie of Berkeley took office today as State Health Officer as the resignation of Dr. J. R. Dunshee became effective." (Los Angeles *Post-Record*, September 16, 1935.)

"Charged with fraudulent dealing in diplomas in connection with the Golden Gate Chiropractic College, Percy Purviance yesterday was acquitted in Alameda County Superior Court. Purviance contended

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the State required no license for naturopathy and he had committed no crime in delivering a diploma to C. H. McDaniel, investigator for the State Board of Chiropractic Examiners." (San Francisco *Chronicle*, September 19, 1935.)

"Dr. Russell Craft, Marysville physician, was sentenced to a year and a day in federal penitentiary when he pleaded guilty in United States District Court, Sacramento, to making false affidavits against the Government for medical services rendered veterans. Craft, who had previously done medical work for the Veterans' Bureau in treating veterans of the Marysville area, was charged specifically with making claims for services he did not render, totaling $200." (Colusa *Sun-Herald*, September 12, 1935.) Dr. Craft's California license was revoked October 18, 1932. (Previous entries, December, 1932.)

"With a murder charge hanging over them because of the death of sixteen-year-old Ruth Attaway from an alleged illegal operation in General Hospital last August 20, Harley Heddens and his wife, Rose Marie, today pleaded guilty to manslaughter before Superior Judge Joseph Vickers. The Attaway girl died after, according to the police, being a patient in the establishment at 227 West Fifty-first Street, conducted by Mr. and Mrs. Heddens. Last week the Heddens were convicted of performing an abortion on Mrs. Mary DeWitt Kern, thirty-nine, of 4212½ South Hoover Street. . . ." (Los Angeles *Herald-Express*, October 14, 1935.)

"Following an autopsy on the body of nineteen-year-old Lorraine Osterman, South Gate High School

(Continued on Page 26)

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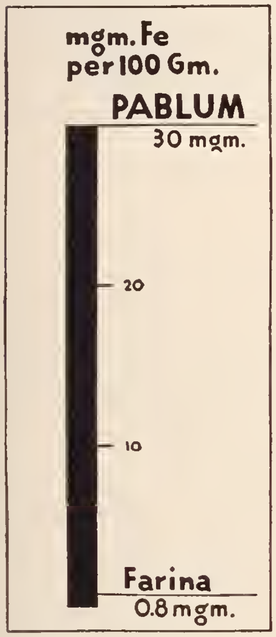

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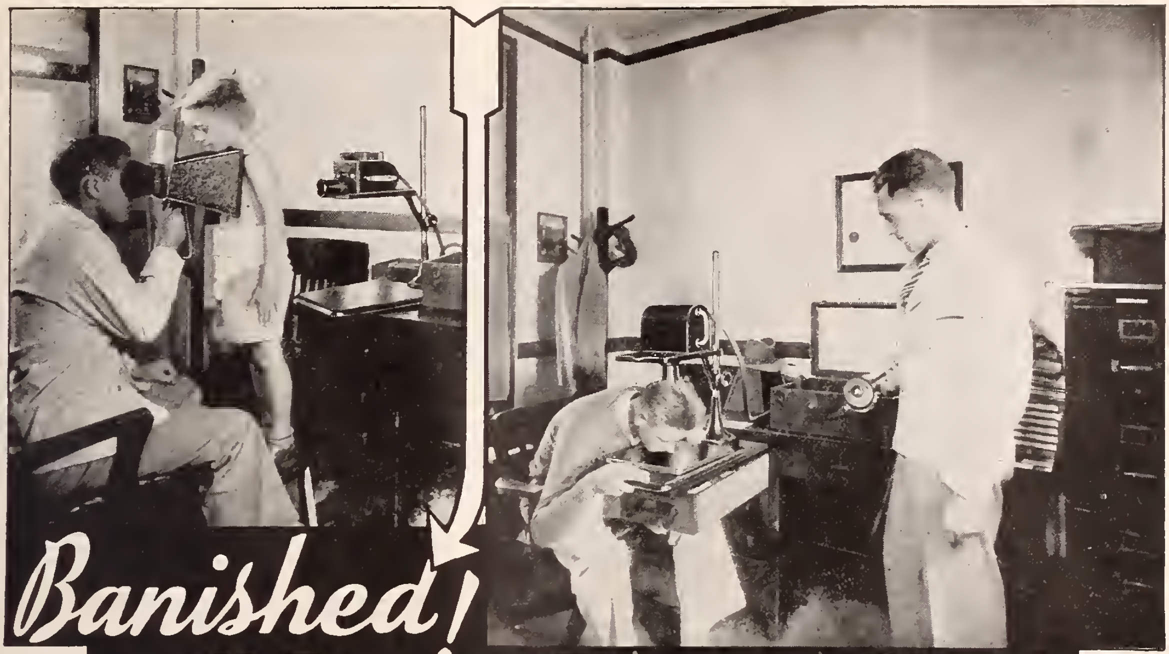
BOARD OF MEDICAL EXAMINERS

(Continued from Page 23)

girl, Dr. Moses Jacobsen, fifty-seven years of age, last night was arrested on suspicion of offering a false instrument to be filed as a matter of public record. The autopsy showed Miss Osterman died as the result of an illegal operation, Coroner Nance reported. According to the death certificate, which bore Doctor Jacobsen's name, Miss Osterman died of a heart ailment, complicated by respiratory troubles. The certificate said death occurred October 6." (Los Angeles *Times*, October 16, 1935.)

"The State Supreme Court has granted a rehearing in the case of Dr. F. D. Coltrin, Fullerton physician convicted of second degree murder and performing an illegal operation upon Charlotta Valentine, sixteen-year-old Santa Ana High School girl. . . . The Supreme Court granted the defense's petition for a rehearing, thereby automatically setting aside the recent decision of the Fourth District Court of Appeal in San Diego, which affirms the conviction. The Supreme Court order transfers the Coltrin case from the District Court of Appeal to the Supreme Court for a hearing of the Coltrin appeal before the higher

(Continued on Page 29)



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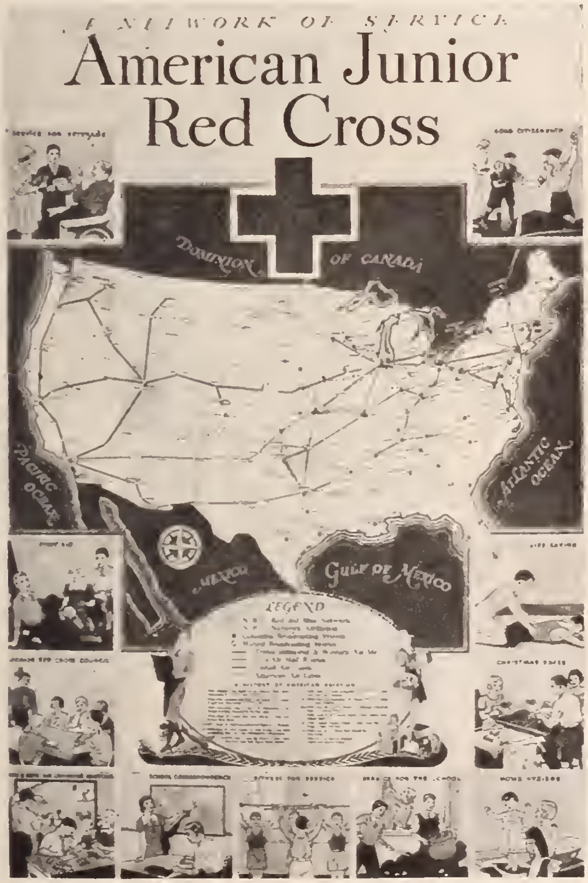

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(Continued from Page 26)

court. . . ." (Santa Ana *Register*, September 13, 1935.) (Previous entries, June, 1925; April, May, and June, 1935.)

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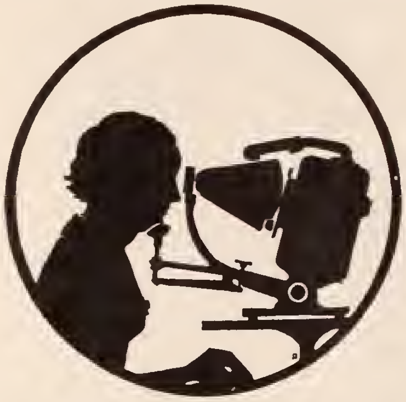
(Continued on Page 37)



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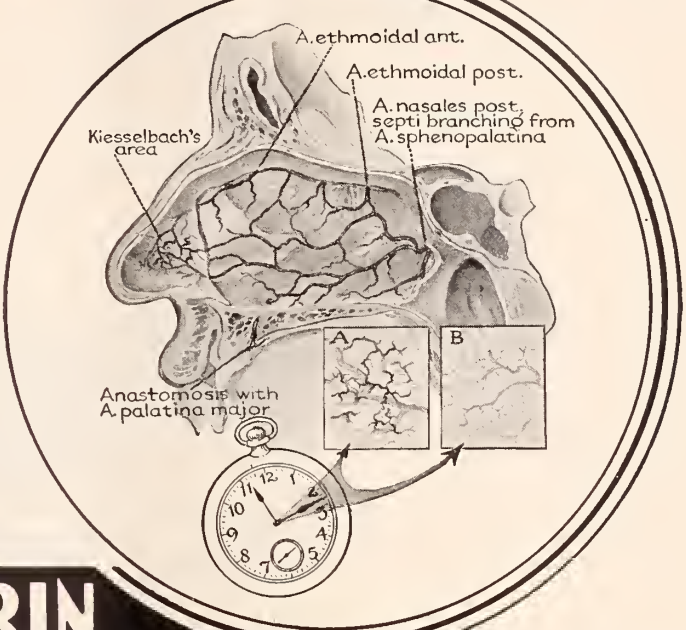
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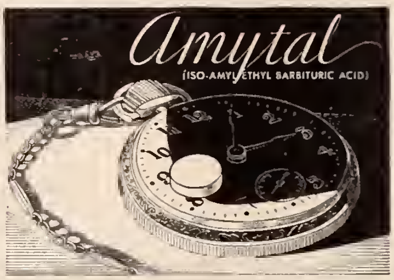

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California and Western Medicine

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Change of Address.—Request for change of address should give both the old and the new address. No change in any address on the mailing list will be made until such change is requested by county secretaries or by the member concerned.

Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this Journal write to its office requesting a copy of this leaflet.

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EDITORIALS[†]

ON A QUALIFYING CERTIFICATE (BASIC SCIENCE) INITIATIVE LAW FOR CALIFORNIA

Qualifying Certificate Law First Considered in 1930.—At the 187th meeting of the Council, held on January 18, 1930, the editor presented a resolution which provided for the appointment of a special committee to study basic science laws, and a report thereon to the Council. The committee's first announcement was made at the Del Monte annual session of May, 1930, and was printed on page 431 of the June, 1930, issue of CALIFORNIA AND WESTERN MEDICINE. Additional reports have appeared, year by year, since that time.*

* * *

Council Has Now Asked for a Draft of a Qualifying Certificate Initiative.—At its meeting on September 7, 1935, and noted as item 24 on page 304 of the 1935 CALIFORNIA AND WESTERN MEDICINE, the Council adopted a resolution deputizing the executive group of this special committee to prepare an initiative draft of such a law for California, and to submit the same to the Council for consideration. The attention of component county societies and of members is, therefore, called to this action, and an urgent request is made that all who have suggestions to offer will do so at an early date.

* * *

California's Requirements Regarding Initiative Laws.—For those who are not acquainted with the procedures involved in the submittal of an initiative to the electorate it may be in order to remark that such a proposed initiative law must be drafted and sent to the Secretary of State at least 110 days before the next general election, (the next State election will be held in November, 1936), and the exact drafts of the proposed initiative law so submitted must have attached thereto the names of at least 8 per cent of the voters who cast ballots at the last preceding general State election; that is, in the year 1936, it must have 186,378 precinct certified signatures of qualified voters. The above legal requirements, together with the near next State election in November, 1936, indicate how short is the time before the date prior to which the initiative petitions must be filed, and why prompt action is necessary.

[†] Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

* A reference list of such reports is printed in this issue, on page 383.

* * *

Proposed Qualifying Certificate Legislative Law (Assembly Bill 1552).—In the last legislature, Assemblyman J. J. Boyle of Los Angeles was requested to introduce the committee's tentative draft of a qualifying certificate law, and this he did in what became Assembly Bill 1552. At the legislature's adjournment, the bill, as per previous arrangement, was still in the files of the Committee on Governmental Efficiency and Economy. The reason Assembly Bill 1552 was introduced was not to secure a law by legislative enactment, but rather to serve notice to all that such a law was in contemplation, and also to bring into the open, suggestions and criticisms. Its provisions included most of the items discussed in the editorial, "Should California Have a Qualifying Certificate Law?" printed on page 339 of the November, 1934, issue of CALIFORNIA AND WESTERN MEDICINE.

* * *

Comment on Assembly Bill 1552.—For the purpose of refreshing the memories of members who have not been following the reports of the special committee, or who have not read Assembly Bill 1552, it may be in order to comment upon some of the provisions of that bill.

To begin with, it may be stated that in drafting the proposed law, no attempt was made to copy literally any one of the so-called basic science acts now on the statute books of some nine commonwealths. The effort was made, however, to draw a composite, tentative draft of an act that would be adapted to California's needs and conditions, and that would have an appeal to its voting citizens when they found the measure on their election ballots as a proposed initiative law. In the recent legislative draft, certain debatable provisions were intentionally incorporated as a means of testing the reactions and securing the comments of lay and healing-art citizens who would be apt to have an interest in such legislation; and its introduction in the fifty-first legislative session fulfilled that purpose.

* * *

Initiative Laws Cost Money.—To submit an initiative law to the electorate costs much money, for at least 186,378 certified signatures (with precinct notations) must be attached to the initiative petitions. It may be said that the California Medical Association aims to present, not so much what might be termed an ideal law (it is a question whether an ideal law will ever be enacted in any state), but rather an act so reasonable and desirable, when considered by the thoughtful voting citizens, that it will have more than a fair chance of adoption, and to have justified the expenditure of time, effort and money involved, while at the same time be sufficiently strong to accomplish its basic purposes. The above is stated for the information of those who are of the belief that the scholastic standards set should be higher than those enumerated in Assembly Bill 1552.

* * *

Term "Qualifying Certificate" Much Preferable to "Basic Science."—The term "qualifying certificate" was used in preference to "basic science," because those two words are understood by voters in all walks of life (as, for example, "qualified voters," "certified milk," and so on). To laymen, the term "basic sciences" brings to mind no universally-accepted list of sciences, nor, for that matter, does it do so even to physicians. The fact that the nine basic science laws now in existence differ, as regards the list of basic science subjects, sufficiently proves this. The English term "qualifying certificate," therefore, would seem preferable, both because it has a clearer connotation, and because that title on an initiative ballot will have more appeal to voters.

* * *

One Year of College Training the Requirement.—The standard of education required must also be based upon practical lines. Full four-year high school education has wide ramifications and acceptance in California, but three years of collegiate work, in addition, has not; nor will the latter impress so many voters. On the other hand, it seems fair to assume that most lay citizens would not construe one year of collegiate study an excessive amount of educational training for the State to demand of every person seeking a healing-art license. Nor could any sectarian healing-art group create sentiment against a one-year collegiate education without stultifying and lowering itself in the eyes of voting citizens. Further, inasmuch as medical graduates must have three years of liberal arts, or its equivalent education, as a preliminary to matriculation in medical schools, they should be able to pass the examinations based on one year's collegiate work without much extra effort.

* * *

The Legal Time for Demanding the Qualifying Certificate.—From the legal standpoint, the State cannot demand a qualifying board examiners' certificate until the individual seeking the privilege to practice presents himself to a healing-art board as an applicant to practice under the license granted by his board. This gives every person who is lacking in preliminary education the opportunity to acquire the one year of collegiate training while he is taking his healing-art course. However, it is obligatory that he must have secured his qualifying certificate prior to taking his healing-art licensure examinations. Here again the latitude permitted will have an appeal to many voters who might otherwise be tempted to vote against such a law.

* * *

Complexion of the Qualifying Certificate Board.—The complexion of the qualifying certificate board is of great importance: its five members must be educators of established scholastic ability and integrity. In the committee discussions, it has been felt that a board composed of one faculty representative (members of the medical faculties not eligible) from each of the following institutions would attain that end: University of California, Stanford University, Santa Clara University, University of Southern California, and the California Institute of Technology. It is self-evident that a faculty member from one of these schools, who would be found guilty of improper conduct in examinations, would then and there seal his future career as a teacher. The president of each of these institutions would nominate three of his nonmedical faculty members, the Governor of the State to choose one from each school. This would permit the Governor to exercise his appointive power while relieving him, at the same time, of political pressure as to his appointments. An examining board so composed and so appointed should be as near-ideal as possible.

* * *

Qualifying Certificate Subjects.—With a qualifying board of personnel such as above noted, the so-called "basic science" subjects selected for examination might be of almost secondary importance. The vital matter would seem to be, not the particular subject or subjects, but rather the determination whether the applicant possessed the cultural knowledge supposedly demonstrable by a student who has successfully and creditably completed the freshman-year work in a first-class college. (On page 181 of the September issue, in a discussion of a recent study of medical school matriculants, are several paragraphs concerning bachelor of arts and bachelor of science students, which have an indirect bearing on the point just noted.) If the evaluation of cultural knowledge be accepted, then ten subjects, with choice of five for examination, would seem permissible; and especially so, since this generosity in choice would go far in nullifying the opposition of interests and voters who might otherwise assail the law on the ground that it insisted on excessive or unfair standards, and that the proposed initiative was another expression of the so-called "medical trust" in an effort to prevent other practitioners from securing licenses. The tentative list of ten subjects given in Assembly Bill 1552—anatomy, physiology, chemistry, physics, botany, zoölogy, biology, hygiene, bacteriology, English—are courses listed in the curricula of many colleges and universities.

It has been suggested also that all applicants, whether American or foreign-born, be required to give their answers in the English language.

* * *

Suggestions and Criticisms Are Invited.—Much more could be written concerning the proposed initiative law, which it is hoped will find a place on the November, 1936, ballot. As previously stated, suggestions and criticisms are cordially invited. The members of the committee and the Council have open minds on the subject, and are anxious to avail themselves of all information of value; but, as also stated, the time for discussion is limited. Therefore, all who wish to comment on the proposed law should do so at once, addressing communications to the Association Secretary, who will send copies to the committee members.

INTERESTING ITEMS IN TWO DEPARTMENTS OF THE OFFICIAL JOURNAL

The "Twenty-Five Years Ago" and "State Board of Medical Examiners" Columns.—Attention is called to the last pages of each issue of California and Western Medicine, whereon are always featured the opening portions of two standing departments—the "Twenty-Five Years Ago" column, in which brief paragraphs are reprinted from the official journal of the California Medical Association for the same month of a quarter of a century ago, and the selection of monthly news items sent to us by Dr. Charles B. Pinkham, for years the efficient secretary of the California State Board of Medical Examiners. These departments often contain items of special interest and value which, it is to be hoped, are at least scanned by many readers. For, it is both refreshing and inspiring to note that colleagues in active practice twenty-five years ago were quite as alert to changing methods as are their successors of today; and, on the other hand, it is well to appreciate how onerous is some of the work which falls to the lot of those colleagues of the present who accept positions on the State Board of Medical Examiners and, on behalf of their fellows and the profession they love, consent to give of their valuable time and best efforts, to safeguard medical practice in accordance with the laws of California.

* * *

Coöperation with Advertisers in "California and Western Medicine": Twenty-Five Years Ago and Today.—In the October issue, on page 301, Secretary Warnshuis presented several reasons why members of the California Medical Association should give preference, in their purchases of medical and surgical supplies, to firms advertising in California and Western Medicine; calling attention to the standing index of advertisers and notices which appear on advertising page 8 of each number.

When, therefore, page 320 of the same October issue is consulted, it will be found that the first item in the column of "Twenty-Five Years Ago," is from an editorial by the editor of that time, the late Dr. Philip Mills Jones (who may be said to have been the founder of the official journal), in which he voiced a plea, much like that made twenty-five years later by the Association's present secretary.

If you failed to read these two items, take the time to do so and, better still, do more by giving your real coöperation in the manner advocated by Secretaries Jones and Warnshuis.

Read also, in the same column, under the paragraph "Personal Mention," wherein the policy regarding personal mention of physicians, laid down by Editor Jones and adhered to by the Council and official journal, during these last twenty-five years, is well expressed.

* * *

State Board of Medical Examiners News Items.—Also in this month's issue, in the second column on the last page of the regular text, Secretary Pinkham submits some interesting news concerning decisions handed down in recent court hearings.

The first clipping refers to an opinion rendered by Judge C. J. Goodell of the Superior Court of San Francisco, in which that jurist reaffirmed the ruling that the practice of medicine by a corporation is illegal. Some years ago a test case in the Los Angeles Superior Court, instituted by the Council, was strenuously fought. It is reassuring to find that the principle, then established, is now again recognized in one of the higher courts.*

Other items chronicle legal controversies among chiropractors, and between naturopaths and chiropractors. In the one instance, a lower court ruled that since the chiropractic law (which was passed some years ago, by initiative vote of the California electorate) failed to define what was "chiropractic" practice, a practitioner haled into court for having practiced without a chiropractic license, could not be prosecuted, as he had violated no legal provisions in the chiropractic act of California!

In another case, carried to the Supreme Court of the United States by the "United States Naturopathic Association, Ltd.," the petitioning naturopaths sought to prevent the California Board of Chiropractic Examiners from arresting and interfering with "naturopath-chiropractors." But the highest federal court passed the legal controversy back to California courts for decision.

A third item cited the opinion of Superior Judge Charles L. Allison, in which he sustained a lower court judgment against a chiropractor who had been brought before the bench on a charge of having violated the State Medical Practice Act. Other paragraphs of equal interest are printed. Whether one believes it or not, it may be worth while to at least hastily peruse this column because, in the last analysis, the California Medical Practice Act is the legal rock to which ethical scientific medicine must be anchored. Some of the items may be commonplace and even sordid, but whatever their nature, they have to do with medical practice, and on that account, it should not be above physicians to know about even these unpleasant happenings.

DRUG ADDICTION—DIFFICULTIES IN ITS ERADICATION

Observance of Federal and State Narcotic Laws Obligatory.—Narcotic eradication is a subject of importance to every physician, because nonobservance of federal or state narcotic laws may lead to serious results, and recent articles in California and Western Medicine are of more than timely interest. In the current issue appears the discussion entitled "Experimental, Clinical and Legal Aspects of Drug Addiction," and in the Bedside Medicine section is a symposium on "Institutions for Morphin and Other Addiction-Forming Drugs." A third article on "Morphin Withdrawal," has a place in the Editorial Comment department.* In the October number, in the California Medical Association column on page 301, the attention of members was called to the importance of observing federal and state narcotic statutes. And in every issue of this magazine the State Board of Medical Examiners' column is almost certain to include one or more records of narcotic law violations, and the penalties handed down to offenders in civil courts or by the State Board of Medical Examiners.

In the articles referred to, the respective authors call attention to the legal and other restrictions that become operative, not only when narcotic drugs are prescribed, in general practice, to relieve pain, but especially when physicians are appealed to by drug habitués—whether they be known as such or not making little difference in the eyes of the law.

* * *

Narcotic Statutes Could Be Improved.—Narcotic statutes are by no means what they should be, nor, in many instances are the methods of administration; and it may be added that, at times, some of those who are charged with supervising the enforcement of the laws are not without blame. Those deficiencies, however, only emphasize the need of utmost care and caution in prescribing morphin and similar drugs, and make the articles printed in this issue worthy of perusal by every member. Read also, if you have not done so, or even read it again, the item on page 301 of the October issue.

* * *

Narcotic Problem Is Worthy of Continued Serious Study.—The narcotic problem continues to deserve thoughtful study by both the medical profession and the lay public. Some of the present laws belong to what might be termed a "stop-gap" type, and should be replaced by something better; for the problem is altogether too serious to be solved by that kind of legislation. More active interest by medical organizations would go far in creating a better understanding of the subject, with resulting improvement in federal and state methods.

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* References to articles and items on subject of corporate practice of medicine, and printed in California and Western Medicine, include:

Editorial—Can a Corporation Practice Medicine: Court Rules Not, Vol. 33, No. 5, page 820 (November, 1930).

Judge Blake's Decision, Vol. 33, No. 5, page 846 (November, 1930).

Editorial—Corporations Cannot Practice Medicine for Profit in California (Senate Bill 175 (Fellom) defeated), Vol. 34, No. 6, page 419 (June, 1931).

Michael M. Davis—Do Corporations Practice Medicine? Vol. 37, No. 2, page 128 (August, 1932).

Corporate Practice—Council Minutes (212th Meeting), Item 13, Vol. 38, No. 4, page 319 (April, 1933).

Corporate Practice—Council Minutes (215th Meeting), Item 19, Vol. 38, No. 5, page 392 (May, 1933).

Corporate Practice—Council Minutes (219th Meeting), Vol. 39, No. 4, page 276 (October, 1933).

Corporate Practice of Medicine—Council Minutes (220th Meeting), Vol. 40, No. 2, page 127 (February, 1934).

Corporate Practice of Medicine — Report of Council—House of Delegates Meeting (31st Meeting), Vol. 40, No. 6, page 432 (June, 1934).

Corporate Practice—Council Minutes (221st Meeting), Vol. 40, No. 6, page 449 (June, 1934).

Corporate Practice—Council Minutes (229th Meeting), Vol. 42. No. 1, page 53 (January, 1935).

Corporate Practice—Council Minutes (229th Meeting), Vol. 42, No. 2, page 129 (February, 1935).

Corporate Practice—Council Minutes (230th Meeting), Vol. 42, No. 3, pages 213, 214 (March, 1935).

* See pages 331, 366 and 326 for these articles.

* * *

Subject Should Find a Place on County Society Programs.—Component county societies might well place the topic, "Narcotics: Narcotic Laws and Narcotic Addiction," on one of their fall programs. Good discussions would probably reveal facts with which many members are unacquainted.

UNITED STATES SUPREME COURT RULING ON UNPROFESSIONAL ADVERTISING

Reference to Court Decision Printed in This Issue.—A special article, in this number,* gives the opinion handed down by Chief Justice Charles Evans Hughes of the United States Supreme Court, on an appeal from a ruling by the Supreme Court of the State of Oregon, in which an advertising dentist sought "to enjoin enforcement of a statute providing for revocation of dentists' licenses because of the character of their advertising."

The legal and professional principles involved in this case of the Oregon State Board of Dental Examiners are closely related to similar problems in medical licensure. The Chief Justice admirably states the reasons why "a profession treating bodily ills" has a legitimate right to have standards of conduct differing from those of "traders in commodities," or "those which are traditional in the competition of the market place."

The opinion is not lengthy, and should be read by every member of the California Medical Association. It is gratifying to find the point of view of ethical practitioners of the healing art, in both medical and dental practice, so splendidly set forth, and by so eminent a jurist as Chief Justice Hughes.

A CURIOUS COURT DECISION

Comment on a Newspaper Item.—On October 21, a Los Angeles newspaper published a story with the usual display and the alluring caption, "'Doctor's Emergency Aid' for 'Humanity,' Says Court," and this choice item CALIFORNIA AND WESTERN MEDICINE finds it worth while to reprint on page 383 of this issue. If the account given in the newspaper is correct, one would be tempted to cogitate on how far this learned municipal judge would go with his humanitarian instincts (at the expense of his fellow citizens) in applying them to professions other than that of medicine.

The Opinion May Be Legally Correct.—Perhaps, from the legal standpoint, the woman injured in the automobile collision may not have been responsible for professional services rendered by the physician, into whose office she was carried, while unconscious, and unable herself, or through an authorized agent, to engage the services of the physician who was called upon to drop his other professional work in which he earned his living, in order to give her aid.

* * *

Learned Judge Might Apply the Principle Enunciated to His Own Profession.—But for a judge to announce from the bench that a physician *must* do this, without financial recompense, is quite another matter. If such is the rule of humanitarian conduct, the principle should apply impartially to all professions, vocations and trades. If a physician, for example, from the standpoint of humanitarianism must give gratuitous aid to a person suffering from a bodily injury, would it not be equally proper that a member of the legal profession should give gratuitous counsel to a citizen without means, whose financial reverses, say, were bringing him to the point where he contemplated suicide? Would not free legal advice, from the humanitarian standpoint, be in order here? Do the members of the legal profession, or would the judge who handed down the opinion, if he were off the bench, so construe their humanitarian obligations?

Another case in point: when a humble citizen such as perhaps a hard-working Mexican, commits theft, to secure food or clothing for starving and poorly-clad children, would it not be an equally "humanitarian" act, under such conditions, to overlook the lapse, rather than to sentence the unfortunate to a comparatively heavy term in San Quentin penitentiary? Yet, one reads in the press, week after week, of just such sentences, and at San Quentin, one can look into the faces of some of these unfortunates, whom "Blind Justice" has seen fit to send there!

* * *

Why Comment Is Made Concerning the Decision.—But enough—the opinion, to which reference is made, would hardly be worthy of comment, were it not for the fact that its emphasis by such publicity in the lay press, spreads a similar misleading concept among lay citizens. The moral evidently is that, even on the bench, thought and words might well be measured, before they are passed out for public consumption.

Other State Association and Component County Society News.—Additional news concerning the activities and work of the California Medical Association and its component county medical societies is printed in this issue, commencing on page 371.

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* See page 389.

EDITORIAL COMMENT[†]

MORPHIN WITHDRAWAL ANAPHYLAXIS

Ostromislensky's[1] theory[*] that morphin withdrawal symptoms are the result of heterophile auto-anaphylactic shock is not taken seriously by professional immunologists. Their skepticism is due to the fact that not one of the four major hypotheses in his speculative logic is supported by adequately controlled experimental evidence.

Briefly summarized, the auto-anaphylactic theory of "morphin withdrawal shock" assumes (1) that morphin, injected into the human body, conjugates with certain unknown normal tissue colloids, the resultant "protein or lipoid salt of morphin" being auto-antigenic. This hypothetical synthetic antigen has not yet been demonstrated by serologic or chemical methods. The assumption that morphin may act as a conjugating "haptene," however, is in line with the known properties of other nonantigenic crystalloids.

To explain "morphin withdrawal shock," it is necessary to assume (2) that the antibody formed against the assumed morphin-protein or morphin-lipoid "salt" is not strictly specific, but gives moderately strong cross-reactions with certain native (or morphin-denatured) tissue colloids. This assumption, also, is in line with the known properties of other antigenic protein-haptene complexes, the antibodies against which react with homologous native (or nonconjugated) proteins. Neither the hypothetical antibody nor the assumed heterophile relationship, however, has been demonstrated by laboratory or clinical research.

The auto-allergic theory of "withdrawal shock" assumes (3) that the day-by-day administration of morphin so neutralizes the hypothetical humoral antibody as to keep it below the reacting or cytotoxic titer for normal (or morphin-denatured) tissue colloids. This is in line with the known test-tube property of certain noncolloidal haptenes. The theory further assumes (4) that, on cessation of this day-by-day administration, the humoral antibody titer rises above the cytotoxic threshold, the antibody entering into allergic chemical union with homologous normal (or morphin-denatured) tissue colloids. Ostromislensky pictures this rise in heterophile titer as a result of hydrolysis of the hypothetical antibody-antigen complex. Such hydrolytic liberation of "bound" antibody, however, is a purely speculative assumption not yet confirmed by study of other humoral antibodies.

It should be comparatively easy for competent laboratory research to confirm or disprove the four basic hypotheses in the above auto-anaphylactic logic. Until this is done, however, the Ostromislensky theory of "morphin withdrawal shock" is a presumably unreliable guide to practical clinical logic. The value, or lack of value, of any anti-anaphylactic therapy suggested by this theory should be judged solely by carefully controlled clinical evidence.

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W. H. Manwaring,
Stanford University.

THE PHYSICIAN AND THE NEW THERAPY

Retrospection is always an interesting mental pastime. It may or may not also be wholesome and profitable. The difficulty is that retrospection cannot be indulged in without calling upon memory, and this per force invites the entrance of other factors which may serve to becloud the issue.

No one who has been engaged in the practice of medicine as long as a quarter of a century can fail to recognize the radical changes which have taken place, notably in the departments of materia medica and therapeutics. It is a matter of common observation that, in increasing degree, young men enter practice with less and less working knowledge of the standard remedial agencies of former days. Instead, their minds are filled to overflowing with a most amazing amount of detailed laboratory information and an equally amazing assortment of the newer ideas of therapeutics, inspired primarily by commercial motives.

It is well enough to know about the Aschheim-Zondek test, the Schilling phenomena, parathormone serum, allergy, vitamin deficiency, the normal cholesterol blood content, etc. But it is well, also, to have practical knowledge of hydrotherapy, counterirritation, massage, enemas, emetics, and so on, and to know how and when to apply these agencies for the benefit of those who suffer.

Few of the stand-bys of the busy old-time physician have retained places of more than casual interest in the modern educational scheme. Such faithful erstwhile friends as calomel, aconite, strychnia, ipecac, ergot, and squills, have been relegated largely to the growing discard. And the disease problem of today that cannot be solved without regard to the clinical findings—well, it is just too bad for the patient.

Sometimes a noncommittal attitude and a "poker face" constitute the older physician's only defensive mechanism. This is often true when he comes in contact at the bedside with a young man fresh from college, and the latter glibly mentions a brand-new test or reaction, applicable or not to the case in hand, as the supreme and final diagnostic recourse. Stimulating, to be sure. Yet one cannot help wondering whether the sick did not have at least as good a chance before the laboratory gained its present ascendency.

[†] This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentations should be over five hundred words in length.

[1] Ostromislensky, Iwan: "Morphinism," Med. Rec. (June 19), 1935.

[*] Editor's Note.—From a trade leaflet containing a résumé of a preliminary report, by Iwan I. Ostromislensky, M. D., Ph. D., on Rossium [diphenylmethylpyrazolonyl] ($C_{20}H_{18}O_2N_4$), a new therapy for the alleviation of the withdrawal symptoms of morphin, heroin, dilaudid, codein, and other opium derivatives, the following paragraph, on which Professor Manwaring comments, is here reprinted:

"*Principle of Action.*—The Rossium treatment is based on a novel concept of the nature of morphin addiction. The theory which is sponsored by Ostromislensky postulates an anaphylactic nature of the 'disease.' Ostromislensky arrived at the development of Rossium by a study of a series of drugs which in animals brought about the prevention of anaphylactic shock. The anaphylactic theory foresees that any nontoxic chemical preparation which checks or relieves the anaphylactic shock in animals should, in theory, check or relieve in a similar manner, the withdrawal symptoms in morphin addicts, provided that the given preparation is distributed in the system of men and animals with perfect similarity."

The clinical management of disease is invariably an individual problem. The practice of medicine can never rightly be considered an exact science until all the mysteries of physiology have been cleared away, and all the intricacies of pathologic processes classified and correctly evaluated. This happy end is not yet in sight; the final word as to the nature and maintenance of life remains to be said. In the meantime the application of remedies to the cure of disease must continue to be more art than science. Judgment, necessarily based to some extent on empiricism, must continue to be the chief reliance.

It is well, therefore, that the physician should keep his feet planted firmly on the solid ground. The enthusiasm which finds expression in the modern tendency to specialism is not devoid of very real danger. When interest and attention are concentrated on a certain restricted anatomic region or group of symptoms, the broad, comprehensive conclusions upon which success and safety depend become difficult, if not impossible.

True progress is not promoted either by a limited outlook or a cock-sure attitude. Better build slowly of seasoned materials that have been proved durable than throw up a hasty structure, however comely, that may soon sag into lop-sidedness or crumble in total collapse.

2007 Wilshire Boulevard.

A. B. Cooke,
Los Angeles.

GLUCOSE TREATMENT IN METHEMOGLOBINEMIA

Experiments[1] with animals which have received $NaNO_2$ in order to produce methemoglobin *in vivo,* show that injections of glucose immediately reduce the methemoglobin to hemoglobin, which can then be oxygenated to oxyhemoglobin, and the normal process of respiration continued. If glucose is injected before $NaNO_2$, methemoglobin formation is prevented. This was shown with rabbits and rats. Rabbits required a larger dose of $NaNO_2$ to demonstrate the methemoglobin formation owing, unquestionably, to the higher blood sugar in rabbit blood. This offers an explanation for the oft-repeated comment in the literature that rabbits are not fit subjects for experiments where methemoglobin is desired.

In the blood stream, glucose tends to produce an oxidation-reduction potential, too negative to permit of the existence of methemoglobin.

It is suggested, therefore, that in cases of poisoning by substances such as acetanilid,[2] some anilin dyes, nitrites, and other substances which produce methemoglobin in the blood, injections of glucose be administered. In the animal experiments, one cubic centimeter of one per cent of glucose in .9 per cent NaCl per kilogram body weight were given. It is suggested, however, that a smaller quantity of solution containing more concentrated glucose be used. An isotonic solution of glucose in distilled water is 5.5 per cent.

University of California.

Matilda Moldenhauer Brooks,
Berkeley.

ON THE DIFFERENTIAL DIAGNOSIS OF VOLVULUS FROM OTHER FORMS OF ACUTE MECHANICAL OBSTRUCTION OF THE SMALL INTESTINE

In addition to obstruction of the intestinal canal, which it has in common with other forms of mechanical obstruction, volvulus has the added feature of circulatory obstruction. Because of this feature early symptoms referable to the circulatory obstruction may entirely mask the symptoms referable to a shutting-off of the intestinal lumen—a fact which has been impressed on the writer by several cases submitted to autopsy within the past six months. A study of the cases involved makes several points in the differential diagnosis clear.

Volvulus may, or may not have been preceded by previous laparotomy or signs of chronic partial intestinal obstruction; but when the torsion known as volvulus occurs, it is productive of *sudden* pain. The pain is *excruciating* and *continuous* (may fluctuate in intensity), and may be described by some as "throbbing." For degree of severity the pain of volvulus is comparable with the pain of a ruptured gastric ulcer, but it is not accompanied by really notable abdominal rigidity. Patients may have a peculiarly accurate sense of position of the involved area. The lack of abdominal rigidity has probably been the factor responsible for surgical delay in many cases. By the time the classical symptoms of intestinal obstruction have developed, the involved intestine is gangrenous and usually cannot be resected. Peritonitis is likely present and an early demise probable. Because of the toxemia associated with intestinal gangrene, death not infrequently occurs within seventy-two hours of the onset; hence surgical intervention, to be successful, must be instituted early. The general tendency, when doubt exists, to wait for developments is a fatal policy when volvulus is present. The anomaly of excruciating abdominal pain, with a disproportionate lack of rigidity, should always cause volvulus to be considered in differential diagnosis.

San Diego County General Hospital.

Howard A. Ball,
San Diego.

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[1] Brooks, M. M.: Preliminary, Proc. Soc. Exp. Biol. and Med., 31:1134, 1934; 32:63, 1934. Complete, Amer. Jour. Physiol. Process of publication.

[2] Kruse, T. K., McEllroy, W. S., and Guthrie, C. C.: Jour. Pharm., 31:208, 1927. McEllroy, W. S., Jour. Amer. Med. Assoc., 73:1919, 1927.

ORIGINAL ARTICLES

BLACK WIDOW SPIDER POISONING*

A PRELIMINARY REPORT ON THE BITE OF THE BLACK WIDOW SPIDER: SO-CALLED HOUR-GLASS OR SHOE-BUTTON SPIDER (LACTRODECTUS MOCTANS)

By Russell M. Gray, M.D.
Indio

Discussion *by Emil Bogen, M.D., Olive View Sanatorium, Olive View.*

THE black widow spider has been well known to the people of Southern California for many years, and the consequences of its bite have also been known. It has lately been found throughout the entire United States. The treatment of black widow spider bite is, therefore, of vital interest to physicians everywhere.

Opinions vary as to the deadliness of the bite of the black widow spider, but there are apparently several authentic cases on record of death resulting from its bite.

DESCRIPTION OF THE BLACK WIDOW SPIDER

Because the black widow spider is not well known, it is well to give a brief description of this deadly arachnid. Apparently the female is more deadly than the male, and the one most to be feared. As will be seen by the accompanying photographs,† the black spider is a small, coal-black insect, with shiny body, living in dark, preferably damp, places. Its web is without pattern and is very tenacious. The spider is a natural coward and, as a rule, runs when disturbed. The male of the species is grey-colored or brown, and has a faint white marking on his abdomen.

The female varies in size from very small, about the size of a BB shot, to rather large, almost the size of a dime, across the body. The body is oval and increases in size up to the period of laying her eggs. On the underneath side of her body there is the characteristic marking, or so-called hour-glass. It is the shape of her body which gives her the name "shoe-button spider," and it is the characteristic marking which gives her the name "hour-glass spider"; her cannibalistic instincts give her the name "black widow spider," since she quickly eats her mate following fertilization.

The marking on the female spider is usually red, and stands out in bold contrast to the blackness of her body. The spider's head is small and has two antennae or feelers, which, as will be seen by the accompanying photographic enlargement, are situated on each side of the mouth.‡ These are brush-like, and below these feelers are two pincers. These pincers are tipped with very hard, keratin-like prongs, which are the fingers or fangs through which she deposits the poison. In the pincers, lying in their substance, along its medial aspect, there is a little tube which apparently conducts the poison from the poison gland, situated at the base of the pincers, down to their tips.

The poison glands are very minute, and consist of a very fine, membrane-like sac which can be extracted with the fangs, as a rule. The amount of toxin or poison contained in each sac varies with the time which has elapsed since she has last struck a victim.

Fortunately for humans, the spiders are not very aggressive, unless they are bothered or their web is agitated. They are usually found around outdoor latrines, dark closets, basements, garages, etc.

The symptoms of spider bite, of course, vary as with other poisonous insects and reptiles: (1) with the individual's susceptibility to the toxin; (2) the site and depth of the bite; (3) the amount of

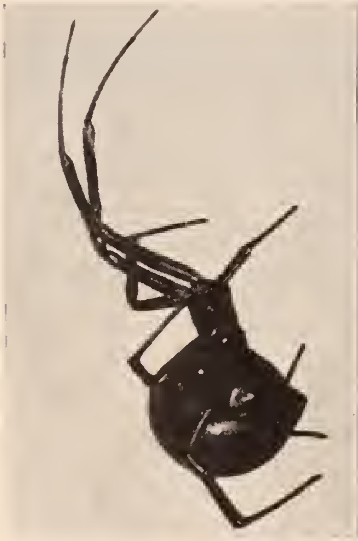

Fig. 1.—Female black widow spider on web—side view.

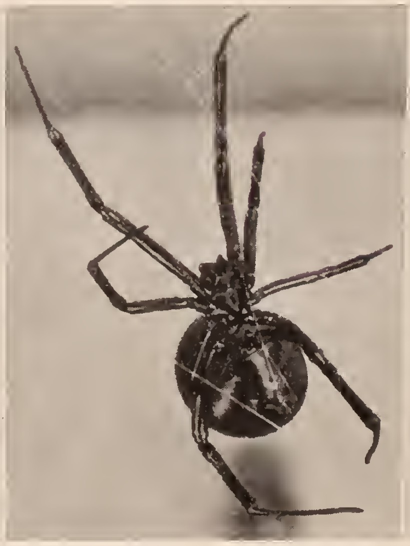

Fig. 2.—Female black widow spider on web, seen from below.

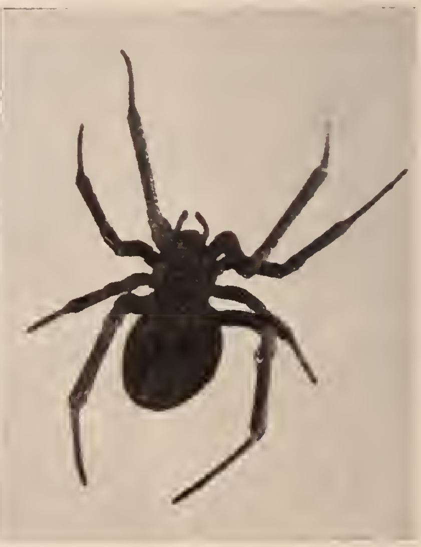

Fig. 3.—Same spider seen from above.

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* See also page 370 for article on this subject.

† Figure 1.—Female spider on web; side view. Figure 2.—Female spider on web seen from below. Note light area on abdomen. This is the characteristic marking, usually red. Figure 3.—Same spider seen from above. Photographs magnified about eight times.

‡ Figure 4.—Enlargement of pincers or fangs together with the "brush-like" antennae or feelers situated on each side of the fangs and mouth. Figure 5.—Photographic enlargement of fangs, magnified about 120 times.

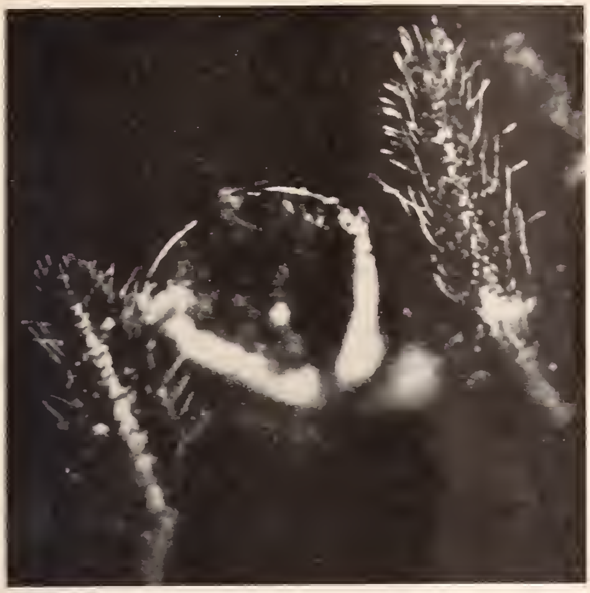

Fig. 4.—Enlargement of pincers or fangs, together with "brush-like" antennae or feelers situated on each side of the fangs and mouth.

toxin injected into the bite; (4) the age and physical condition of the patient.

SYMPTOMS

The symptoms of the spider bite are characterized in practically every instance by the patient's feeling a burning sensation at the instant of the bite. This, however, apparently only lasts a few seconds, and is immediately followed by a feeling of extreme pain across the abdomen, headache, pain and a sense of pressure around the heart, and a sensation of collapse. The pain increases in character and usually quickly spreads, involving all the muscles of the entire body. The patient complains of a headache and the face assumes an anxious look. Beads of cold perspiration usually appear on the face and brow, and the patient is in extreme agony. He also presents symptoms of extreme shock or collapse; cyanosis may also develop. I have seen these symptoms develop within three minutes from the time the patient was bitten. The pain in the abdomen is so severe as to double the patient over, and also so severe as to prevent him from crying out. The rapidity with which these symptoms develop differ greatly from that of other poisonous insects and reptiles. Apparently the poison is a neurotoxin and is conducted by the nerves, since a tourniquet applied to the extremity fails to shut off the flow of the toxin in the body.

REPORT OF CASES

Case 1.—In 1928, I had my first experience with a black-spider bite. It was the case of a young man about twenty years of age who had been bitten on the index finger while picking tomatoes. He had very severe cramps all over his body, but none of the extreme variety. His pulse was increased, he complained of a sensation of weight around his heart, and had an excruciating headache, but was not nauseated. The treatment consisted of morphin and other sedatives, including 10 cubic centimeters of magnesium sulphate solution intravenously. Because of the excruciating, throbbing type of headache a spinal puncture was done, and the spinal fluid was found to be under greatly increased pressure. In spite of this treatment the symptoms persisted for about six hours, after which time they gradually subsided, and, aside from being weak, the patient had entirely recovered by the next day. However, it was several days before he was strong enough to go back to work.

* * *

Case 2.—Not long afterward another patient presented himself for treatment, who had rested his hand on a spider, quickly withdrawing it when he noticed the spider was there. He complained of just a burning sensation all over his body. Examination showed only one break in the skin, which was apparently very superficial. This man quickly recovered without any treatment, and was able to work the next day.

* * *

Case 3.—A short time later another patient was brought in who had been bitten in his sleep on his left cheek. This patient was extremely ill and, in spite of all known remedies, was apparently doomed to death. As it happened this patient was brought in by the first patient I had, and, since he was not responding to any treatment given, I finally decided to inject the blood of the first patient into this one. I removed 200 cubic centimeters of blood from the arm of the first patient and injected it into the hip of this patient. Within fifteen minutes the symptoms of this patient were rapidly subsiding, and within three hours the patient felt as good as before the bite. Spinal fluid cell count showed 140 cells to the cubic millimeter. The patient's blood pressure was 196/40; temperature was 97.4. Normal blood pressure was 116/70, taken two days later.

COMMENT

In reviewing the literature following this experience, I found that Doctor Bogen of the Los Angeles General Hospital had been using convalescent serum in black-spider bites for some time. Following this experience with the recovery of the patient, convalescent serum or whole blood was used in each instance of spider bite from that time to the present time. However, it is not always convenient to have a donor, and because of the difficulty experienced in keeping the convalescent serum for a long period of time in the heat in this desert locality, there were a few cases where other methods were instituted until a donor could be found. These have included the injection of magnesium sulphate solution intravenously, the injection of calcium chlorid 10 per cent solution

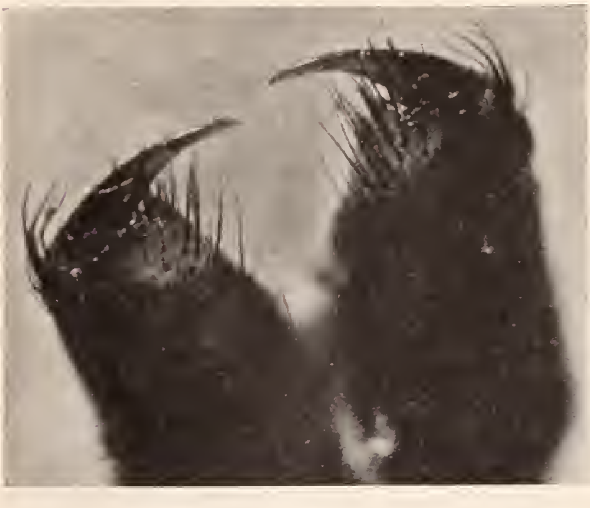

Fig. 5.—Photographic enlargement of fangs magnified about 120 times.

intravenously, morphin, spinal punctures, Mulford's rattlesnake antivenom, and other measures. In all, considerably more than one hundred cases have been seen and treated.

Case 4.—The most outstanding of all cases which I have had was that of Mr. B. DeC., age 55, a deputy sheriff. The patient was admitted September 30, 1932, at 6:15 p. m., stating he had been bitten on his left arm by a black widow spider about ten minutes before. He was having excruciating cramps throughout his abdomen. He was immediately given one-quarter grain of morphin and one-quarter grain of codein hypodermically. The pain in his abdomen was becoming more severe and at 6:40 he was given morphin, grain one-half. The pain in the abdomen was much more severe, and he began to have a great deal of dyspnea. At the same time he commenced to have a very severe pain in his lower lumbar region. This pain, he stated, "felt as though he were being beaten across the back with a red-hot poker."

At 6:45 the patient began to become cyanosed and stated he had a feeling of suffocation. He was given a few whiffs of chloroform because of the pain, and was also given an ampoule of sodium phenobarbital, for restlessness, together with stimulants. As we only had about 20 cubic centimeters of convalescent serum on hand, he was given that on admission to the hospital. At 7 p. m. he was given another ampoule of sodium phenobarbital, and at 7:10, because of the excruciating headache, a spinal puncture was done. Spinal fluid pressure was greatly increased, and 20 cubic centimeters of clear fluid was removed. The patient began having chills, and was placed in a hot, wet blanket. At 8 p. m. the patient was very restless, moaning and groaning with pain, talking continuously, semi-delirious. His pulse was fairly good quality, and he had acute retention of urine.

Since it was impossible for me to locate a donor for convalescent serum, the sheriff of Riverside County was called and asked to go to Los Angeles County Hospital, where he picked up 200 cubic centimeters of convalescent serum, which was given about 10:30 p. m. All this time the patient was complaining of very severe pain around the hips and back, and he was perspiring and turning continuously. He was also complaining of very severe pain around his heart, and complained of a deep burning through the instep and toes, with slight swelling of both feet. The patient also had a twitching all over his body at times. The blood pressure at this time was 150/80. Following the convalescent serum, the patient had a considerable amount of relief for about six hours, at the end of which time he was complaining of very severe pain across his back, around his heart, and also severe pain of both feet. He was given morphin sulphate and magnesium sulphate; he was also given stimulants. On October 1 at 3:40 a. m., he became very nauseated, vomiting several times. His abdomen became distended and he was given hot compresses to his abdomen. During this time the patient would break out with a very profuse perspiration and become very weak. On October 1 at 7:45 a. m., another 200 cubic centimeters of whole convalescent blood was injected, following which the patient seemed to be improving, although there were times when he would complain very bitterly of headache, tightness around his heart, a cold clammy perspiration, and a feeling of weakness around his heart. The patient continued to have severe abdominal cramps, pain around his heart, pain across his back, with occasional waves of nausea and vomiting for six days. He was extremely weak for one month, being hardly able to stand when allowed out of bed on the fourteenth day. He was unable to return to work for thirty days. The patient was kept in bed for fourteen days, because of the very severe pain he continued to have around his heart. This patient had been examined numerous times previously and had never had any heart symptoms previous to the spider bite. Since his recovery he has had numerous attacks of pain, anginal in character, which might possibly be an aftermath to his spider bite. He was an extremely active and vigorous type of man, being, as he often stated, "as strong as an ox." His usual weight was 227 pounds—at the time of the bite. On October 13, his fourteenth day, his weight was 183 pounds—a loss of forty-four pounds.

COMMENT

The pain and suffering of this patient are indescribable, and it was apparent from the start that the patient was doomed to die unless adequate medication could be given. The amount of convalescent blood and serum necessary to relieve the patient's symptoms indicates he received an overwhelming dose of spider venom.

This patient has been the source of most of my convalescent blood since his recovery. However, I have noticed it takes increasing amounts to give the relief, indicating that the strength of the antivenom manufactured by the body decreases with time.

The sensations of other patients which I have seen vary from very slight prickling to very severe cramps, but the two described above are the most severe reactions I have ever observed.

EXPERIMENTS ON GUINEA-PIGS

In an endeavor to determine whether the spider toxin is as deadly as it is supposed to be, a series of experiments were carried out on guinea-pigs. Pig No. 1 was given the full amount of toxin from both poison sacs of a large black widow spider. This pig very quickly became extremely ill. He became paralyzed in his hind quarters, developed an intense diarrhea, labored respiration, and heart action. He died one hour and fifty-six minutes after the injection. Pig No. 2 was also given the full amount of toxin from another spider. This pig, likewise, became very ill, but did not die.

In the attempt to prove the presence of immune bodies developed in the blood of the pig in which the tolerance of the toxin has been gradually developed, a series of experiments were then conducted.

The contents of the poison sacs of a large black widow spider were dissolved in one cubic centimeter of saline solution. Pig No 3, on Monday, June 10, 1934, at 2:30 p. m., received .15 cubic centimeter of this fresh spider venom solution injected intraperitoneally. No reaction was noted after ten minutes. Pig No. 4, on Tuesday, June 11, at 4 p. m., received .2 cubic centimeter of fresh spider venom solution injected in the groin. On Wednesday, June 12, Pig No. 3 received .2 cubic centimeter of spider venom solution injected intraperitoneally. Pig No. 4, on the same day, received .25 cubic centimeter of spider venom solution in the groin. On June 13, Pig No. 3 received .3 cubic centimeter, while Pig No. 4 received .45 cubic centimeter. On June 15 they both received one-half the amount of the venom of a spider. On June 17, Pig No. 3 received the venom from one spider, and thirty-two minutes later had a slight reaction characterized by crying and extreme nervousness, but quickly recovered. On June 18, Pigs No. 3 and 4 received the venom from one and one-half spiders. On June 19, Pig No. 4 was found dead in his cage in the morning.

An autopsy showed the heart to be in systole, the intestines were in marked spasm, and the lungs appeared to be slightly congested. No changes were determinable in the brain. On June 20, Pig No. 3 received the venom of two spiders at 10 a. m. On June 21 the venom of two spiders was again injected. On June 26 the venom of three spiders was injected, and on June 29 the venom of four spiders was injected. On July 1 the contents of the poison sacs of five spiders was injected.

On July 5, Pig No. 5 was given an injection of the venom of a full-grown black widow spider at 10:30 a. m. At 10:45 a. m. slight tremors of the body were noticed, which rapidly increased. The pig became increasingly nervous and irritable, and began crying out as though in extreme agony. At 11:30 the pig was apparently in severe pain and had a partial paralysis of the hind quarters. At 12 noon three cubic centimeters of blood were taken from the heart of Pig No. 3 and injected into the peritoneal cavity of Pig No. 5. There was no decrease in the severity of pain, and at this time the pig was completely paralyzed in his hind quarters and was also crying very piteously. At 12:45 three cubic centimeters of blood was again removed from the heart of Pig No. 3 and injected into the peritoneal cavity of Pig No. 5. At 1:30 p. m. the symptoms appeared markedly less, and it was noticed she could again begin to move her hind quarters. At 2:30 p. m. Pig No. 5 was apparently practically normal, and by 5 p. m. all symptoms had completely subsided and she was eating as well as previously.

IN CONCLUSION

The result of these experiments seem to bear out the theory that an antitoxin or antivenom is developed by the complete recovery from the bite of a black widow spider, and is present in the blood of spider-bite victims or experimental animals; and, if used in time, it is reasonable to suppose will prevent the appearance of the symptoms, or cure, spider-bite poisoning.

In the endeavor to place on the market a black spider antivenom which would be procurable in all parts of the United States, the H. K. Mulford Laboratory has consented to coöperate in an experiment looking toward the development of such an antivenom similar to that already on the market for rattlesnake bite. The experiments are still in the embryonic stage, and it is too early to venture any conclusions as to their practicability.*

Coachella Valley Hospital.

DISCUSSION

Emil Bogen, M. D. (Olive View Sanatorium, Olive View). — More than six hundred reported cases of black widow spider poisoning, with forty recorded deaths, justify further attention to this condition. The cases presented by Doctor Gray are quite characteristic. The increased spinal fluid pressure is especially noteworthy. In most of the instances reported or observed, however, the symptoms have not arisen immediately, but after a lapse of from five to thirty minutes after the bite, so that in many instances the etiologic relationship is unperceived.

Serum from animals experimentally immunized against the venom of the spider have been used on mice, rats and guinea-pigs, by Hall, Bogen and D'Amour, and on man by D'Amour, with results similar to those reported by Doctor Gray. The experiments should be repeated on a much larger scale, however, and with larger animals, if consistent results are to be obtained and existing sources of error avoided.

Scores of patients have, by this time, been treated with convalescent human blood or serum for spider-bite poisoning, but the exact value of this procedure is not yet certain. The variability in the severity of the symptoms of arachnidism, and the fact that they often begin to subside spontaneously, without treatment, unexpectedly, make it difficult to prove the value of the therapeutic measures taken. The doses used by Doctor Gray are larger than those that have been generally tried, and may be, perhaps, more effective.

Although most physicians who have used convalescent serum observe that the symptoms usually lessen immediately after its use, the fact that institutions using other modern treatments, such as the intravenous injection of 10 per cent solutions of magnesium sulphate, calcium chlorid or calcium gluconate, report scores of cases with no deaths and rapid amelioration of symptoms, seems to make the general use of such serum unnecessary.

EXPERIMENTAL, CLINICAL AND LEGAL ASPECTS OF DRUG ADDICTION*

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The repeated use of opium, morphin, heroin or dilaudid eventually results in a disease known medically as drug addiction. Morphin is the most active alkaloid found in opium. Heroin and dilaudid are produced synthetically from morphin. Chemically, the three drugs—morphin, heroin, and dilaudid—are phenanthrene derivatives.

It is impossible to read the literature pertaining to the subject of morphin and its derivatives without encountering the terms addiction, habituation, tolerance, abstinence and withdrawal. So many different meanings have been given to these terms by the various investigators that it seems advisable to define them as they are to be used, employing the definition that has been accepted by the foremost workers in the field.

DEFINITIONS

The following definitions have been frequently referred to in the recent literature. (Tatum, Seevers and Collins,[1] 1929).

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> "We mean by the term 'addiction' that condition of mind or body induced by drugging which requires a continuation of that drug, and without which a serious physical or mental derangement results."
>
> "Habituation, we interpret to mean a condition wherein one becomes accustomed to but not seriously dependent upon a drug."
>
> "Tolerance is a phenomenon characterized by the fact that more and more of a drug must be used to produce equivalent effects."

When the drug to which an addict has been accustomed is withheld, a series of symptoms appear which are orderly in their appearance, specific in nature and may be relieved in a few minutes by a reinjection of the usual drug. These symptoms are known as the symptoms of abstinence or withdrawal.

PHYSICAL VERSUS MENTAL ADDICTION

Once induced, when does narcotic addiction cease? A critical review of the literature fails to reveal an accepted definition. Occasions have arisen when a clear understanding of this question would have been most helpful. To one familiar with narcotic cases the dilemma is obvious.

Chronic users of opium, morphin, heroin and dilaudid are addicts, whereas chronic users of cocain, marihuana and tobacco are habitués. The former are dependent upon their drug, without which withdrawal symptoms appear. The latter are accustomed to, but not dependent upon their drug, and no craving for drug appears during abstinence. Therefore, true addiction does not exist unless abstinence symptoms appear upon cessation of drug administration.

Phenanthrene derivative drug addiction is characterized by physical as well as mental manifestations. The physical symptoms during withdrawal yield readily to medical therapy, but it is common knowledge that the mental factor, the craving for the drug, may persist for years after the physical symptoms of withdrawal have disappeared.

Is phenanthrene addiction a curable or an incurable disease? Is the addiction at an end when the physical symptoms of withdrawal cease, or is it necessary to wait until the mental craving, as well, has disappeared? Obviously, if it were possible to dissociate the mental and physical abstinence symptoms, the problem of defining the limits of addiction would be advanced. Children born of addicted mothers may suffer from withdrawal symptoms (Terry, Pellens)[2] and die if not treated in the usual manner.

In congenital addicts the mental phase of addiction may be eliminated until it has been proven that a child born an addict, treated for withdrawal symptoms and then raised normally without knowledge of this unfortunate incident, is actually more susceptible to the drug than a normal individual. In experimentally addicted animals the mental phase of addiction, though we cannot totally disregard it, is of slight importance. In certain cases addiction in man has never been followed by mental abstinence, once the withdrawal phase of the disease was passed. Patients in hospitals suffering excruciating pain as the result of an accident, an operation or an illness, have received the benefits of the phenanthrene derivatives, were actually addicted, then withdrawn when the pain had been overcome, and upon recovery had no more desire for the drug than for a return of the disease itself.

The profession makes little progress in the treatment of the mental manifestations of phenanthrene derivative addiction. The low percentage of permanent cures attests to the validity of this statement.

POSSIBLE METHODS FOR CONTROLLING ADDICTION

Advancement in the field of addiction has three avenues of approach:

1. Abolish addicting drugs from the face of the earth. These drugs are one of humanity's greatest blessings when handled properly, and its greatest scourge when placed in the hands of the unscrupulous.
2. Change the chemical nature of the drug, that we may utilize its virtues and avoid its dangers. Considerable has been accomplished, but the end is not yet in sight.
3. Secure a better knowledge of these fundamental physiological, chemical and pharmacological changes in the human addict and in the experimentally addicted animal. This knowledge should open the way to the successful treatment of the unfortunate victims of the drug traffic.

EXPERIMENTAL ADDICTION IN ANIMALS

The production of addiction in animals makes possible carefully controlled studies of the physical and chemical changes involved.

Many advantages are gained and specific limitations encountered in the experimental approach to the addiction problem. Animal species as well as individuals in the same species vary tremendously in their reaction to both acute and chronic phenanthrene intoxication. Among laboratory animals the monkey most closely simulates the picture of chronic addiction in man (Kolb and Du Mez,[3] 1931). The dog is probably the next best animal, and was used by Claude Bernard[4] in 1864, by Plant and Pierce[2] (1927), and by Tatum, Seevers and Collins[1] in 1929. Hatcher[5] (1929) used the cat in his investigations. The rat was used in the investigations of Hildebrandt[2] (1922), Sollman[2] (1924), Flowers, Dunham and Barbour[6] (1929). Light, Torrance,[7] et al. (1929) made an extensive study of the human addict from a chemical and physiological standpoint. The fact that human addiction has not been completely reproduced in animals, makes it unsafe to draw extensive conclusions from these experiments. However, they point the way for more adequate studies on man.

DEVELOPMENT OF THE THEORIES OF ADDICTION

The use of opium by man has been traced as far back as 5000 B. C., to the ancient Sumerians. Between 1700 A. D. and 1800 A. D., warning against the use of the drug appeared. At that time, what we know as addiction was called "the opium appetite," which resulted in physical deterioration.

In 1803-1805, Serturner isolated morphin, the most active alkaloid of opium. Undoubtedly it was administered with the expectation that the noxious stimulating and appetite forming factors having been removed, the drug could be used with impunity.

With the advent of the hypodermic needle there was a further increase in the use of the drug, for it was believed that the dangers of habit formation could be avoided by administering the drug subcutaneously.

Dreser, in 1898, introduced a new morphin derivative, diacetylmorphin or heroin, as a nonaddicting drug, possessing all the virtues and none of the dangers of morphin. Not until twelve or fourteen years after the introduction of this drug were its addicting properties generally recognized.

The Bilhuber-Knoll Corporation in Germany, in 1923, patented a new phenanthrene derivative, dihydromorphinon, or dilaudid. This drug possessed an analgesic effect similar to morphin, acted as a respiratory depressant, its toxicity was greater than that of morphin, and the therapeutic dose was much smaller. The reported slight euphoria supported the claims for its slight addicting powers. Recently, however, repeated warnings have appeared in the literature regarding its addicting properties (Eddy[8]). Yet there are many doctors, druggists and chemists who believe dilaudid to be a substitute for morphin, but do not appreciate that it is a phenanthrene derivative and should be prescribed with the same precautions as for morphin.

THEORIES OF TOLERANCE, ADDICTION AND ABSTINENCE

Faust (1900) advanced the theory that morphinism developed in a direct proportion to the increased ability of the body to destroy morphin. However, a critical review of Faust's protocols and the conclusions of further work have definitely disproved this theory. In the case of inorganic nitrites, tolerance develops without the least indication of addiction.

Marme, in 1883, advanced the theory that morphin is oxidized to a compound having stimulating properties, namely, oxiddimorphin.

Loof (1922) presents an attractive hypothesis which has not been proved because of our lack of information regarding the tissue metabolism of the central nervous system. Morphin injected in the body is carried to the nervous system via the blood stream. According to Loof, morphin displaces the cholin of the lecithin-like constituent of the cells in the nervous system. Loof explains tolerance as due to the activation of morphin by its combination with lecithin, and withdrawal symptoms as due to the continued liberation of cholin.

Hirschlaff (1902) and Gioffredi (1900) have attempted to explain tolerance and abstinence upon the basis of Ehrlich's doctrine of immunity. They hold that morphin, an alkaloid, might serve as an antigen for the production of antibodies which, when present, permit the addicted animal to tolerate doses that are lethal in nonaddicted animals. In the hands of Pellini and Greenfield (1920-1924), the conclusions of Hirschlaff and Giofreddi were disproved.

Light, Torrance,[7] et al. (1929-1930), as a result of an exhaustive clinical and experimental investigation of a series of human addicts of from five to twenty years' standing, came to the conclusion that addiction produced so little bodily functional change that the symptoms of withdrawal are largely, if not entirely, psychic or mental.

Teruuchi and Kai (1927) have reported an increased capacity of the musculature of the body to hold morphin during the period of addiction. The large doses in excess of that which can be readily handled by nonaddicted rabbits were picked up rapidly from the blood stream by the muscle, thus protecting the more sensitive nervous tissues of the body. The morphin is then slowly eliminated in concentrations below that injurious to the cerebral tissues.

Krause (1918) and David (1924) and Wuth (1930) have attributed the symptoms of morphinism and abstinence to be closely related to the imbalanced vegetative nervous system. However, these workers have not arrived at a common agreement as to how this phenomenon takes place, or which division of the vegetative nervous system is in preponderance during morphinism and abstinence.

Tatum, Seevers and Collins (1929) have advanced a theory of addiction, tolerance, and withdrawal based on the dualistic action of morphin. A tolerance develops to most of the depressant effects of the drug, whereas, there is an increased susceptibility to the stimulating action. Addiction is characterized by the status of the physical balance between the stimulating and the depressant action of morphin. Withdrawal is due to the stimulating effects of the drug which outlast the depressant effects.

EXPERIMENTAL STUDIES IN MORPHIN ADDICTION AND WITHDRAWAL

Flowers, Dunham and Barbour[6] (1929) observed that morphinism in rats produced a hydration of the tissues, which advanced and declined at different rates and was accompanied by a perceptible increase in water intake. Withdrawal of the drug induced a new adema, especially of the brain. The water exchange was at first depressed and then increased, whereas the food intake did not vary sufficiently to account for the change in the tissue hydration.

Barbour, Russell, Flowers, Dunham and Hunter[9] (1929) reported morphinism in the dog to be accompanied by a dehydration of the liver, kidney, and brain, and a hydration of the skin, stomach, intestines, and blood.

Morphin withdrawal was followed by a redistribution of the water in the tissues:

(*a*) Hydration appeared in the brain, muscles, liver, and kidney.

(*b*) Dehydration occurred in the blood, serum, spleen, and skin.

They concluded that, like tetany, morphin withdrawal induced muscle tremors, incoördination, decreased blood calcium, edema of the brain, liver and kidneys, anhydremia, diarrhea and disturbed water regulation. Especially significant was the brain edema, which they felt to be of sufficient magnitude to account for the symptoms of withdrawal.

From the literature, morphin withdrawal, clinical and experimental tetany, water intoxication of Rowntree, and epilepsy held the following factors in common: brain edema, an imbalanced salt and water metabolism, somewhat similar symptoms and an increased irritability of the body.

We believed that if the alleged new brain edema of morphin withdrawal were prevented, one might expect an amelioration of the abstinence symptoms. The preliminary work on this problem was started in 1929 and completed in 1932.

In 1931, Tatum and Seevers[11] made a somewhat similar correlation and prediction. They believed that if hydration could be prevented, *e. g.*, by a ketogenic diet together with water deprivation, the symptoms of abstinence might be mollified or prevented.

The following problem was conceived along the lines laid down by Hopkins[13] (1931), namely, calcium cod-liver oil, parathormone therapy in contrast to the water deprivation and ketogenic dietary control of McQuarrie.

EXPERIMENTAL PROCEDURE

Albino rats, weighing between 150 and 200 grams, were addicted for one month to morphin sulphate, ranging from 10 milligrams to 100 milligrams per kilogram of bodyweight. The animals were divided into two groups, one receiving what may be termed the *C* diet and the other the *N* diet, respectively.

Diet C		*Diet N*	
Whole wheat	60%	Whole wheat	63%
Casein	15%	Casein	15%
Whole milk powder	10%	Whole milk powder	10%
Alfalfa meal	5%	Alfalfa meal	5%
Calcium lactate	5%	Sodium chlorid	2%
Cod liver oil	5%	Butter	5%

During the last four days of addiction and the first three days of withdrawal, the rats receiving the *C* diet were injected daily with 30 units of parathormone.

On the last day of addiction and on each of the first three days of withdrawal, rats from each group were sacrificed. Samples of the hemispheres, cerebellum, medulla, liver, muscle, skin, kidney, heart, spleen, and blood were taken in duplicate, when possible, for determining water content. The symptoms of addiction and withdrawal were carefully noted.

Results:

1. As addiction progressed, an increased irritability developed. This was especially noted once a week when the usual daily injection was omitted.
2. Animals receiving the high calcium regimen were appreciably less irritable, during addiction and withdrawal, than the nontreated rats.
3. Rats elicit definite withdrawal symptoms, though their severity is much less than that previously noted in dogs.
4. A high calcium regimen, together with the diet used in this experiment, alleviated the morphin withdrawal symptoms in rats, but did not prevent them as a similar high calcium parahormone treatment would prevent the symptoms of tetany.
5. Tissue hydration figures will be given in a later publication.

CLINICAL AND EXPERIMENTAL CONCLUSIONS APPLIED TO PHENANTHRENE DERIVATIVE ADDICTION

The ambulatory treatment of phenanthrene derivative drug addiction leads only to failure, because addiction to this type of drugs is associated with a personality defect so great that the addict is totally unreliable regarding his addiction or whenever his drug supply is endangered (Light, Torrance,[7] et al. (1929-1930), Terry and Pellens[2]).

Most addicts take a far greater dose of the drug than is actually needed to prevent the appearance of withdrawal symptoms. The dose of the drug which will just prevent withdrawal symptoms depends primarily upon the size of the dose rather than upon the length of addiction.

Twenty years of addiction produces no irreparable damage to the heart, liver, kidneys, lungs, vascular system or the glands of internal secretion. Physical addiction yields readily to treatment, but the craving for the drug in constitutionally inferior addicts may last for years.

Addicts having complicating diseases have been withdrawn from the drug by Edward Huntington Williams[12] (1922) with a remarkable improvement in the condition of the patient. "Cold turkey," that is, no treatment at all, in the Los Angeles County jail has resulted in two or three deaths in five thousand narcotic patients. (Dr. B. Blanc, a matter of record.)

As a result of their negative findings in an extensive chemical and physiological investigation of addiction, and withdrawal in the human, Light, Torrance,[7] et al. (1929-1930) have attributed the symptoms of withdrawal to mental or psychic influences.

Tatum, Seevers, and Collins[1] (1929) have demonstrated, in dogs, that addiction is due to the balance of the depressant and the stimulating action of phenanthrene derivative drugs. Withdrawal is due to the fact that the stimulating effect outlasts the depressant action and may be controlled by the barbiturates.

Experimental investigations have failed to produce a morphin-derivative drug which has all the virtues of morphin and none of its addicting properties. Medical treatment may assist by decreasing the severity of withdrawal symptoms, but the only permanent cure today depends solely upon the desire and the ability of the addict to abstain from the use of the drug.

First-hand contact with addicts by one of us (L. E. D.) has led to the opinion that strict enforcement discourages the use of narcotics by youthful offenders, who have had one or two experiences in jail. Furthermore, the apprehension and conviction of a major peddler with imposition of a severe sentence, is followed by a disruption of the existing channels of distribution.

GOVERNMENT CONTROL OF NARCOTIC DISTRIBUTION

In theory, the regulation of the distribution of narcotics by the various governmental agencies is logical. Its purpose is to protect the nonaddicted public, and each year it is becoming more efficient and effective. Since, however, the raw material is raised in foreign countries, it is an international question which requires federal attention.

All states are implicated for it is not a local problem. We do not have uniform state narcotic laws, and undoubtedly this factor accounts for a portion of the indictments among physicians for narcotic law violations. In California, we have one of the best and most efficiently enforced state narcotic laws in the United States. A physician who has been accustomed to dispensing narcotic prescriptions in a state where the laws are not as rigid or as well enforced might conceivably find himself in difficulties if he attempted to carry on the same type of practice in this state.

The ambulatory treatment of addicts is contrary to the rules and regulations adopted by the American Medical Association and the Federal, state and local governments for the control of drug addiction. The doctor is not permitted by law to prescribe for the physical and mental comfort of drug addiction. Two exceptions to this general rule are to be noted as having to do with the medical addict, and the aged and infirmed chronic addict of long standing. The first exception deals with those incurably ill individuals. In the law, two specific examples are given: incurable cancers and incurable tuberculosis. The second type deals with those aged and infirm addicts of long standing who would collapse if the drug were withdrawn.

The responsibility of making the distinction between those who may be treated and those who may not be treated, in terms of the law, rests entirely upon the shoulders of the physician in charge of the case.

In this position of treatment with addicting drugs, the physician has two duties to perform: first, to treat the sick, and with addicting drugs, if the case justly deserves it. Secondly, it is his duty to so dispense those drugs that the happiness and well-being of the nonaddicted public may not be endangered.

The doctor is the last legal hold the government has on the narcotic. If the physician assumes the responsibility of writing a prescription for an addict with pathology to be administered by the addict outside that office, in the eyes of the law the doctor made a sale of that drug, for the druggist is recognized as being only in physical possession of the narcotic. Pathology complicated by addiction is *per se* no indication for prescribing narcotics in the eyes of the law, which allows only that the narcotic be used in the treatment of symptoms produced by the pathology.

HOW DO PHYSICIANS BREAK THE NARCOTIC LAWS?

The physician usually breaks narcotic laws for one of several reasons:

1. He does it deliberately and for profit. This type is in such a minority that he is not worthy of further discussion.

2. He may violate the law because he is unfamiliar with the rules and regulations enacted for their control.

3. The physician is deliberately and premeditatively outsmarted in his own profession by a clever addict.

The addict so skillfully simulates the symptoms of some disease which does not lend itself to immediate positive diagnosis with confirmation by a rapid laboratory technique, that the doctor actually believes the patient has that disease and prescribes narcotics for it. Therefore, the addict diagnoses his own pathology.

It is impossible for the physician to determine the tolerance for the drug that the patient used and, therefore, he prescribes possibly a little less than the addict requested, but still an amount far in excess of that required to keep the addict from developing withdrawal symptoms. Thus, he is actually prescribing for the addiction and not for the disease.

The supply the addict gets is usually sufficiently in excess of what he needs that he sells the excess to pay for his own drug. In selling the drug, the addict is apprehended by the enforcement officers. They find the prescription narcotics on the addict or at his home. They immediately investigate the office records and the drug store records for more prescriptions.

If it is a minor offense, the physician may be dismissed with a warning. If the case has the earmarks of a willful and deliberate violation, an informer may be sent in to the doctor to ascertain the method under which he works. Several trips may be made before the officer is contented that he has sufficient evidence to stop this narcotic trafficking. The doctor is then arrested and finally brought in to court.

THE DOCTOR IN COURT

In court, the physician will be requested to justify his diagnosis of the case. Occasionally this cannot be done. Other cases of similar nature may meet the doctor in court for the same purpose. He will be asked to justify the therapeutic measures in terms of what is done in generally recognized practice. The fees charged for the prescriptions are usually made the subject of testimony in order that a motive for his action be impressed upon the jury. In the end, the jury decides his guilt or innocence.

NARCOTIC CLINICS

Narcotic clinics have been a failure, because they have aided and abetted the diversion of legal narcotics into the illicit narcotic traffic.

They foster the addict among the nonaddicted, which has led to a spread of the use of drugs.

IMPROVEMENT IN NARCOTIC CONTROL

Rapid advancement in the control of the illicit narcotic traffic has been accomplished within the past five years; and still the goal to be desired has not been attained. To reach this end even greater effort must be expended in the following fields:

1. *International Regulations:* International regulation of the narcotic traffic enjoys the most favorable position thus far attempted. However, the situation in Japan, China and the Balkans must be improved for our own protection.

2. *Uniform State Narcotic Laws:* Narcotic law enforcement cannot work effectively until the gravity of the narcotic problem is recognized in every state of the union, and a uniform state narcotic law is enacted.

3. *Narcotic Hospital or Farms:* The conclusions of Light and Torrance regarding the possibility of rehabilitating certain types of narcotics should be a stimulus for an increased effort toward adequate facilities for rehabilitation or isolation of the addict.

4. *Narcotic Education:* Further efforts should be made to educate the public regarding drug addiction, through educational activities under the control of responsible educational institutions, and should be definitely removed from the hands of private racketeering organizations.

5. *Conclusions:* Our fragmentary knowledge of addiction, tolerance and withdrawal, is a sufficient recommendation for greater efforts to be expended in scientific and clinical investigation of the narcotic problem.

University of Southern California.

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DISCUSSION

Emil Bogen, M. D. (Olive View Sanatorium, Olive View).—Drug addiction is an important field of medicine, which has been regarded too often from an ethical or legalistic viewpoint rather than from that of a true disease entity. The authors are to be congratulated for their objective scientific approach to the problem. The old ideas of physical stigmata or degeneracy of the addict have been disproved, but the conclusion that addiction is purely a psychic phenomenon does not necessarily follow. The fact that our routine chemical and microscopic examinations fail to reveal the essential nature of the pathology of drug addiction is by no means proof of its nonexistence. The instances of infantile addiction reported, the fatalities following sudden withdrawal, and particularly the unmistakable evidences of drug addiction and withdrawal states in experimental animals, emphasizes the organic nature of the condition.

Physical, chemical, colloidal, physiologic and pharmacologic theories of the mechanism of drug addiction are all appealing, but so far none have been objectively verified. The results of the experiments here reported failed to confirm the very plausible hypothesis that changes in water balance might be responsible for the symptoms. The use of different animals here might give rise to differences in the results obtained, and further work in this regard should be conducted with dogs as well as with rats.

The cruelty, and even danger, of the "cold turkey" treatment is not in harmony with general medical teachings, although the favorite of the policeman or jailor. Continued administration of morphin may not be necessary to safeguard the subject during the period of withdrawal symptoms, but some medical care and supportive treatment are often indicated. Sedative and hypnotic drugs, stimulants, carbohydrates, nonspecific protein injections, endocrine products, water restriction and increased fluid intake, all have been administered at various times, usually with initial enthusiasm and subsequent skepticism. The experimental results obtained by the authors with calcium feeding and mobilization appear to warrant the further application of this treatment to additional animals as well as human subjects.

Chemical attempts to produce nonaddicting substitutes for morphin have been so far unsuccessful. Perhaps it might be possible to obtain some product or mode of administration which would give more lasting effectiveness, thus enabling the subject to come into a clinic or doctor's office for actual administration of the drug, and yet continue his daily activities otherwise normally. This might obviate the dangers of prescribing such drugs for ambulatory patients so vividly depicted by the authors. Drug addiction is essentially a highly communicable disease. The physician cannot allow his sympathy to the patient to relax his vigilance in safeguarding the community. It is to be hoped that further studies such as that just reported may eventually enable him to serve both.

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Frederick Proescher, M. D. (Box 864, San Jose).—The problem of drug addiction has generally been investigated from psychiatric, psycho-analytic, forensic and social hygienic points of view, and very little progress has been made toward the solution of the problem with purely psychiatric-psychologic methods. During the last ten years the complex phenomena of addiction has been attacked by animal experimentation, biochemical and clinical investigations. The clinical pathologic investigations of Light and his coworkers have given us a new stimulus for further work on human addicts. Animal experimentation has been of great value, but the final solution of the problem, if ever found, must be based on experiments similar to the work of Light on human addicts.

The question as to whether addiction is purely a mental phenomena, or a disease entity with definite cellular-humoral changes, is still a much discussed problem. Light denies the existence of an addiction disease, and believes that if the addict could be relieved from his addiction, complete rehabilitation would result. If Light's opinion is correct, morphin should be considered as an innoxious drug, which could be taken without harm to health. If such were the case, morphin addiction would be considered a bad habit rather than an evil, and much less dangerous than chronic alcoholism with its subsequent mental deterioration. This broad assumption needs further investigation, as it is in direct contradiction to previously accepted experimental and clinical investigations.

In my own investigations, conducted on eighty morphin addicts at the Narcotic State Hospital, definite changes were found in the numerical number of red and white cells with a more or less marked lymphocytosis. During withdrawal there was a decided drop in blood sugar, while potassium, inorganic phosphorous and magnesium were above normal. Potassium was found to be increased in from 60 to 100 per cent of the cases; the highest increase being 54 per cent milligram three days after withdrawal. From these observations it is evident that morphin causes definite changes in the metabolism. Further extended investigations over a longer period of complete abstinence are necessary to determine whether or not a return to normal physiologic balance is possible.

The mechanism of morphin addiction centers in the central nervous system. I agree with the theory of Tatum and Seevers that morphin addiction is neither a conditional reflex nor a willful attempt at deception, but definitely points toward functional morphologic changes in the nervous correlation. The great irritability and increased sensitiveness, which are common to all addicts, finds their explanation in the loss of proper nerve balance, which is due to the destruction of important ganglion cell layers. Considering these changes, it is highly improbable that complete recovery from chronic morphin poisoning is possible.

The following report of the Mayor's Committee on Drug Addiction in the city of New York gives us some idea as to difficulties encountered in dealing with the drug addict:

> As for removing or "obliterating" the craving for narcotics by immediate medical treatment, we have found this craving to be present after all treatments. The patients look forward to being discharged; in fact, count the days, and if not discharged when they expect to be, some of them go into a state resembling frenzy, so great is their apparent eagerness to revert to drugs. Every imaginable excuse and pretext will be tried in order to be discharged sooner.
>
> The committee found that in the vast majority of cases, possibly in from 80 to 90 per cent, if not in a larger percentage, the desire for drugs sooner or later returns in full force and addiction again occurs. A withdrawal treatment by itself is only an administrative routine, to be carried out as often as the addict received a court sentence, and with no probability of bringing about a lasting abstinence.

From the extensive experience of the New York investigators, which is typical elsewhere, where large numbers of drug addicts come under observation, the task to combat drug addiction with present methods seems to be almost hopeless. Since it is impossible at present to restrict the manufacture of morphin for medicinal purposes only, a more strict enforcement of the law is needed. Otherwise society must continue to burden itself with the unnecessary and unjust expense of hospitalization, physicians, nurses, medical supplies, etc., for the care of addicts, only to have them revert sooner or later to their vicious habit.

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Hon. Sanborn Young (Chairman State Narcotic Committee, Los Gatos).—Editor's Note: Ex-Senator Sanborn Young, chairman of the California State and the Citizen Narcotic Committees, was invited to discuss the paper of Doctors Detrick and Thienes. Under date of September 24, on Yacht Myrno II, off Coronado. Senator Young sent the following letter:

> *To the Editor:*—Your request of the 20th reaches me on my vacation, far from my library, and it is therefore impossible for me to accept your invitation.
>
> As far as I know, Doctors L. E. Detrick and C. H. Thienes are the only scientists who are doing research work on the experimental and clinical aspects of drug addiction, located on the Pacific Coast, and they should be given every encouragement.
>
> Being a layman, I am not qualified to discuss the medical aspects of their treatise; but that portion devoted to the legal aspects of addiction is a true and correct statement of present conditions. Sanborn Young.

DINITROPHENOL ON LIVER FUNCTION*

By R. A. Koch, A.B.
R. C. H. Lee, A.B.
and
M. L. Tainter, M.D.
San Francisco

Discussion *by C. D. Leake, Ph.D., San Francisco; H. Clare Shepardson, M.D., San Francisco; W. W. Boardman, M.D., San Francisco.*

CLINICALLY, the question has been frequently raised whether dinitrophenol could cause liver damage. Fear of this possibility has been based apparently on the chemical relationship of dinitrophenol to picric acid and related compounds which are known hepatotoxins. Although the structural formulae of picric acid and 2-4 dinitrophenol are very similar, their physiologic actions are quite different. Therefore, it is a matter for determination, and not speculation, whether or not dinitrophenol has any detrimental effect on this organ. This report presents the results of an attempt to determine how much damage, if any, occurs to the liver when dinitrophenol is given repeatedly in massive doses for prolonged periods.

METHODS

Four healthy adult dogs were given a diet of unrestricted quantities of dog biscuit. Each week their liver function was tested with the dye, rose bengal. For this test the dye was injected intravenously, and then samples of venous blood were drawn at intervals of one, five, fifteen, and thirty minutes. The concentrations of the dye in the plasma were determined by comparison with tubes containing standard solutions of the dye. The one-minute sample was assigned a value of 100 per cent concentration, and the concentrations in the other samples calculated in terms of this one. After a control period of six weeks, three of the dogs were given dinitrophenol in capsules daily by mouth during the remainder of the study. The initial dose was 10 milligrams per kilo, which was increased 5 milligrams at a time, at intervals of four to six weeks, until the dogs died from overdosage. Death occurred during the second week of the 40-milligram dose. The total duration of the study was nine months. After the death of the medicated dogs, the untreated control was killed and the tissues of all dogs were examined microscopically.

RESULTS

The changes in body weight and concentrations of the dye in plasma are shown in Figs. 1 and 2. It can be seen that the administration of the dinitrophenol caused a steady loss of weight in Dogs 2, 3, and 4, whereas Dog 1, the untreated control, gained.

The dye remaining in the blood plasma at the end of 5, 15, and 30 minutes is indicated in the

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* From the Department of Pharmacology, Stanford University School of Medicine, San Francisco.

Study supported, in part, by a grant from the Rockefeller Fluid Research Fund of the School of Medicine, Stanford University.

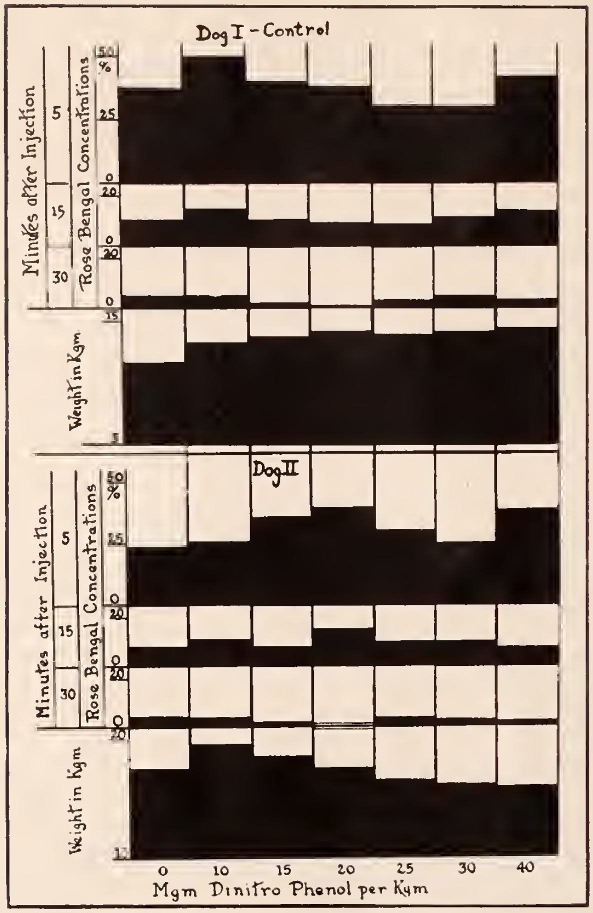

Fig. 1.—Effects of daily administration of dinitrophenol on body weight and concentration of rose bengal in plasma. Dog I, unmedicated control. Dog II, dinitrophenol medication. Each vertical column represents the average of all the determinations made during a given dosage of dinitrophenol.

figures by the height of the blocks. Each column represents the average of all the estimations made during a given dosage period. A retention of the dye, and hence diminished liver function, would be indicated by an increase in height of the blocks. However, it is seen that there was no consistent or progressive change in the liver function of poisoned dogs, the variations being about the same as those in the unmedicated dog, or in the control period before the drug was first administered. This is particularly clear in the fifteen- and thirty-minute intervals.

The oxygen consumption was measured twice while the dogs were receiving 25 milligrams per kilo dinitrophenol. The control dog had an average consumption of 5.9 l. per sq. m. per hour, and the three poisoned dogs had average values of 12.4, 17.3, and 25.5, respectively. Therefore, the 25-milligram dosage was effective in raising the metabolic rate very much above the normal level. On higher doses the dogs were continuously prostrated by fever and hyperventilation. The failure to affect liver function obviously could not be ascribed to a lack of metabolic stimulation by the drug.

At time of death a complete necropsy was performed on each dog, but with entirely negative findings. The histologic examination of the tissues also showed no lesions; the liver tissue being examined with special care.† These results agree with our previous negative findings in dogs given smaller doses of six months. In these dogs,[1] not only was the histologic appearance of the livers essentially normal, but there was also no change in the icteric index.

SUMMARY AND CONCLUSION

1. Dinitrophenol was administered to dogs in daily oral doses, beginning with 10 milligrams per kilo and increasing to 40 milligrams per kilo during a period of six months, when the dogs died.

2. The oxygen consumption was greatly increased, and the dogs were prostrated by fever and by hyperventilation from the higher doses.

3. Weekly tests of liver function with the dye, rose bengal, showed no evidences of damage to the activity of this organ. Histological studies also showed no alterations in the morphological appearance of the hepatic cells postmortem.

4. Therefore, an experimental basis for the clinical fear of hepatic injury from continued medication with dinitrophenol was not demonstrated.

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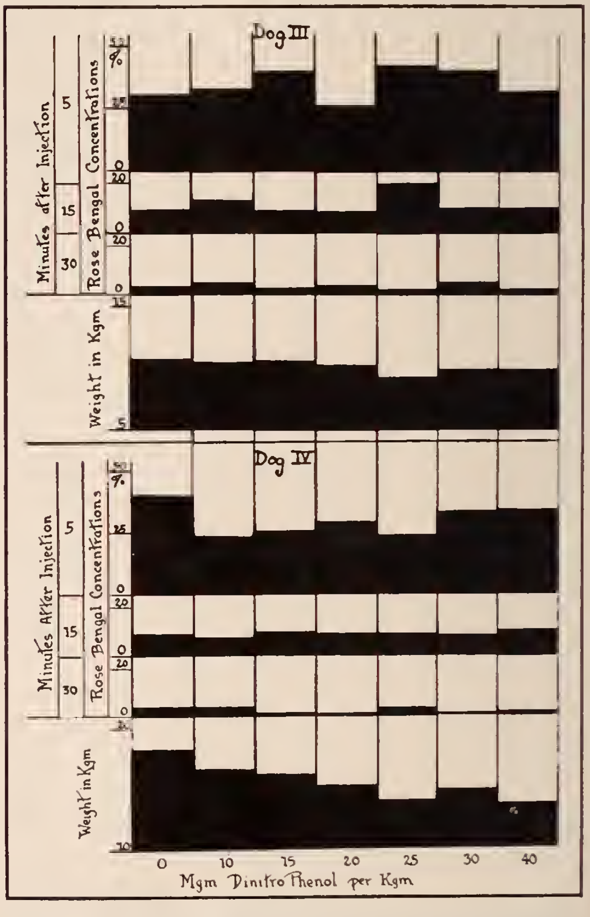

Fig. 2.—Effects of daily administration of dinitrophenol on body weight and concentration of rose bengal in plasma in Dogs III and IV.

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† We are indebted to Dr. D. A. Wood of the Department of Pathology for the histologic studies.

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DISCUSSION

C. D. Leake, Ph. D. (University of California Medical School, San Francisco).—In extending Heyman's phamacologic studies on the fever-producing properties of nitrated naphthols to include alphadinitrophenol, Doctor Tainter and his associates recognized its probable extensive clinical application, particularly in obesity. They have been properly careful in repeatedly warning against its possible toxic reactions, and have carefully attempted to indicate what these may be by appropriate experimental studies. Unfortunately, the results of laboratory experimental work frequently do not coincide with what is often well-founded clinical opinion. Thus, it was pointed out by Anderson, Reed and Emerson (*Journal of the American Medical Association,* 101:1053, 1933), that Perkins had shown that munition workers exposed to dinitrophenol were particularly likely to show toxic effects if they had renal or hepatic disease or chronic rheumatism (Public Health Reports, 34:2335, 1919). French pathologists, according to Perkins, found fatty infiltration of the liver on postmortem examination on human beings presumably dying from dinitrophenol poisoning. Koelsch on experimental evidence thought dinitrophenol might cause fatty degeneration of the liver (*Zentralbl. f. Gewerbehyg.,* 4:261, 1927). Doctor Tainter and his associates now find in very careful experiments that the continued administration of dinitrophenol to dogs produces no significant liver injury. The situation reminds one somewhat of the discrepancy between clinical opinion and experimental evidence in regard to the effect of cinchophen on the liver, and also in regard to the problem of "alcoholic cirrhosis."

Certainly I think it is desirable to have all the evidence possible regarding opinions on the action of dinitrophenol. The fact remains, however, with respect to its clinical application, that it should be used with due respect for the fundamental clinical proposition that the hazard of treatment should never be permitted to exceed the hazard of the disease. Obesity is not a hazardous disease in any sense except in isolated instances. It would seem that the opinion of Anderson, Reed, and Emerson is still sound, namely, that "it is yet to be demonstrated that this drug is as safe and satisfactory for weight reduction in human beings as other methods in common use."

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H. Clare Shepardson, M. D. (384 Post Street, San Francisco).—The results obtained by the authors in attempting to ascertain what effect dinitrophenol has on the liver of the dog present no basis for criticism and little for discussion. It seems imperative that all knowledge possible be obtained concerning any substance which is to be used therapeutically in human beings. Yet a word of caution should be interpolated. It is questionable whether the physiology of the dog is identical with that of the human subject. Furthermore, it has been adequately demonstrated that the response of every human individual to dinitrophenol is not the same. Consequently, it must be remembered that not always can results obtained with animals be interpreted in such a manner as to offer complete assurance that the physiology of the human will be identically affected. The discusser has seen the icteric index (as determined clinically) considerably elevated by dinitrophenol. Whether this represents actual disturbance of liver function, or the presence of a yellow dye within the body, seems unimportant from a clinical point of view. What is important is the fact that the drug does this only to certain individuals who apparently are sensitive to it.

The authors are to be congratulated on furthering the investigation of the possible toxic effects of dinitrophenol, for it seems likely that it may eventually prove to have a place in the therapeutic armamentarium of the clinician.

* * *

W. W. Boardman, M.D. (490 Post Street, San Francisco).—This study of the influence of dinitrophenol on the functional efficiency of the hepatic cells in dogs is of interest, but is contrary to the conclusion reached by MacBryde and Taussig after carefully controlled clinical studies. They find a definite decrease in the rate of excretion of phenolsulphonephthalein after moderate doses of dinitrophenol, which they interpret as indicating a toxic effect of the drug on the liver cells.

On the other hand, in the great number of patients who have taken dinitrophenol, there has been no satisfactory clinical evidence of liver damage, and further studies and the passage of time would be necessary to settle this question definitely.

However, dinitrophenol cannot be considered a therapeutic agent until its relationship to cataract formation has been satisfactorily explained. At present, around the San Francisco Bay region there are more than thirty known cases of cataract in relatively young women who have taken the drug, and cases are being reported from various points throughout the country.

The control of obesity, however extreme, does not justify this risk of cataract development.

CYANID POISONING: ADDITIONAL NOTE ON ITS TREATMENT WITH INTRAVENOUS METHYLENE BLUE SOLUTIONS*

By J. C. Geiger, M.D.
and
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San Francisco

Discussion *by C. D. Leake, Ph. D., San Francisco; P. J. Hanzlik, M. D., San Francisco.*

The following case reports are presented as additional evidence of the efficacy of intravenous methylene blue solutions in the treatment of individuals affected by cyanid poisoning in which the drug has been ingested, and to describe an instance in which there was an unsuccessful attempt made to combat the effects of hydrocyanic acid gas poisoning.

REPORT OF CASES

Case 1. — Mrs. D., age 28 years, was brought by ambulance into the Mission Emergency Hospital at 11:30 p. m., July 24, 1935. She was unconscious, and presented the following important signs: lowered body temperature ("cold" to touch), intense cyanosis, absence of a perceptible pulse (radial arteries), severe disturbance of respiratory function (four gasping respirations per minute) and "staring" eyes with dilated pupils. The patient's husband, who came with her to the hospital, stated that at about eleven o'clock she dissolved a lump of hard grayish-white substance (with a pungent odor) in some whisky in a glass tumbler, then drank the mixture. She then admitted to her husband that she had taken cyanid, soon after-collapsed and became unconscious.

Artificial respiration and treatment for shock (warm blankets, elevation of the foot of the bed, and hot-water bottles) were administered, without apparent change in the patient's general condition, while the methylene blue solution was being prepared for intravenous injection. The administration of methylene blue (50 cubic centimeters of a one per cent solution) was begun at 11:45 o'clock. Within eight minutes after the methylene blue treatment had been initiated, the respiratory function had been restored sufficiently to permit the discontinuance of artificial respiration. Carbogen (oxygen 95 per cent, carbon dioxid 5 per cent) by inhalation was begun at this time, when respiration was slow, deep and labored, but spontaneous. At 11:50 o'clock, gastric lavage (using one per cent sodium thiosulphate solution) was initiated, and at 11:55 o'clock methylene blue (50 cubic centimeters of one per cent solution) was repeated. During the thirty-minute period immediately following, there was definite improvement of the respiratory and circulatory functions; pupils returned to normal size with normal reactions, and there was recovery of consciousness.

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* Acknowledgment is made to reports of the various investigations made into the circumstances surrounding these events made by Milburn H. Querna, M. D., Avery E. Wood, M. D., San Francisco Hospital and Emergency Hospital staffs; William A. Sumner, M. D., Emergency Hospital staff; and A. B. Crowley, Chief Inspector, Division of Industrial Hygiene, all of the Department of Public Health.

At 12:45 o'clock she was completely rational, and admitted having taken cyanid. (This was her fifth attempt at suicide, by various routes.) At one o'clock she was removed from the treatment room into the ward room, her condition being "practically normal, except for signs of nervous excitability." She slept well throughout the rest of the night, and at 7:30 o'clock (less than eight hours following treatment for cyanid poisoning) she wanted and felt that she was able to get up and to return to her work. Her condition continued to improve, and she was discharged from the hospital at 11:30 a. m., twelve hours after entry.

Chemical study of the gastric contents showed the presence of cyanid, and examination of a portion of the remaining original "grayish-white substance (with a pungent odor)" showed that it was sodium cyanid. Blood samples were not obtained and quantitative studies were not carried out.

In the instance reported, the successful use of methylene blue solutions, intravenously, in the treatment of an individual affected by cyanid poisoning occurring as a result of the ingestion of cyanid, is well demonstrated. It is believed appropriate to record, also, at this time, an unsuccessful attempt at the treatment of an individual affected by hydrocyanic acid-gas poisoning.

* * *

Case 2.—Mr. W., age 45 years, was brought into the Harbor Emergency Hospital at 10:55 o'clock on the morning of November 21, 1934. On arrival the outstanding signs of poisoning were extreme cyanosis, unconsciousness, rapid thready pulse (radial arteries), and markedly disturbed respiration (weak gasping breathing at the rate of one to two per minute). There was a strong odor of cyanid about the patient.

As soon as it could be prepared, methylene blue (50 cubic centimeters per one per cent solution) was given intravenously, epinephrin (one cubic centimeter of a 1:1000 dilution) and caffein-sodio benzoate (one gram) subcutaneously. With the completion of the administration of methylene blue, epinephrin (one cubic centimeter, 1:1000) was repeated, this time by the intracardial route, and artificial respiration was begun (with the patient in the prone position).

Within a period of approximately three minutes after the initiation of artificial respiration, there was a resumption of spontaneous respiration of deep and regular character at the rate of about 18 to 20 per minute. The pulse rate approximated 90 per minute and was of good quality, and cyanosis was much less intense.

At 11:10 o'clock his condition was quite good; and, after being wrapped in warm blankets, the patient was taken from the treatment room and was placed in bed. Ten minutes later, at 11:20 o'clock, there occurred an increase in the pulse rate, a greater intensity of the cyanosis, and labored respiration. These changes were believed sufficient to warrant further use of methylene blue, and 40 cubic centimeters of the one per cent solution was given intravenously, with subsequent improvement of the quality and rate of the pulse, and noticeable improvement of the respiration function.

Shortly afterward, however, the patient began to struggle, trying to get out of bed, with such force that two persons were required to hold him. At 11:40 o'clock carbogen inhalation was instituted. At 11:45 o'clock his physical activity was so violent that restraint became necessary. At this time he responded, slightly, to his brother's questioning. Because of the fact that his strength was being rapidly exhausted by his struggling against restraint, morphin sulphate, 16 milligrams (grains one-quarter) was given at 11:50 o'clock. At 12 o'clock noon, there was a sudden change, with cessation of respiration and very feeble pulse. Artificial respiration, in conjunction with carbon dioxid and oxygen, was reinstituted and continued for more than an hour without success. During this last hour the character of the pulse temporarily improved at times, and an occasional spontaneous respiratory movement occurred; but in the intervals between these hopeful signs the patient's entire body would undergo tetanic convulsions, resulting in cessation of respiratory movement and marked weakening of the heart action, as evidenced in the character of the pulse. Death occurred at 1:10 o'clock, before sodium amytal, which was being prepared for injection, could be administered, or two and one-quarter hours after the patient was brought to the hospital.

Autopsy was conducted by the necropsy surgeon to the coroner, and examinations of the blood and tissues were carried out by the toxicologist and the pathologist of the coroner's office, with positive findings limited to the odor of cyanid from the markedly congested liver, and evidence of injections of methylene blue in the antecubital fossae.

COMMENT

Chemical examination of the blood failed to show the presence of cyanid, but this result should be more or less expected, since cyanhemoglobin, which is formed very rapidly in the presence of cyanid in the blood, is not demonstrable in blood from the living subject by methods now available. It is doubtful, also, whether spectroscopic studies for methemoglobin, or even the chemical examination of the urine for sulphocyanates, would be fruitful in so short a period of time after the poisoning occurred.

Mr. W. was a fumigator, and at the time of the incident which resulted in his death was at work fumigating, with hydrocyanic acid gas, the engineers' quarters on an intercoastal liner, docked at her pier in San Francisco. The gas was generated, on the pier, by the addition of a commercial product ("cyan-egg") to dilute sulphuric acid, the resultant gas being pumped through a hose to the quarters being fumigated. Mr. W., presumably, stooped over a hose-coupling to repair a leak and breathed in sufficient quantities of hydrocyanic acid gas, within a very short period of time, to cause his death; but since the leaking coupling referred to was on the open deck, in the open air, it is controversial, we believe, whether these conditions would permit hydrocyanic acid gas to be absorbed in sufficient quantities to result in severe poisoning and death. Investigation showed, also, that the first sign of distress was in evidence when Mr. W., while working over the leaking coupling, after having sealed up the quarters being fumigated and signaled for the "shooting" of the gas, reached in his overalls pocket and withdrew an ammonia capsule, stating to his brother, "I think I had better use this." He was unable to crush the capsule, however, collapsing immediately after making this statement to his brother. It is also of interest to note that, as far as could be determined at the time, no gas mask was in evidence in the close proximity of the quarters being fumigated.

These points are mentioned because of the very real hazard that exists, and the possibility that Mr. W., discovering leaks in the quarters fumigated, might have been exposed to concentrations and time intervals beyond safety limits during the period of repairing these leaks, after the release of the gas in the closed space.

ON USE OF HYDROCYANIC ACID GAS AS A FUMIGANT

The use of hydrocyanic acid gas as a fumigant is quite widely practiced, and although it meets the requirements of an effective agent, it carries, at the same time, a very low factor of safety. Competent regulation and supervision of all crews using this method of fumigation is essential at all times if deaths are to be prevented. An effective ordinance has been operative in San Francisco for more than three years; and under this legal instrument, rigorous supervision obtains in all fumigations in which a dangerous poisonous gas is used. A trained inspector is present before and during the "shooting" of the gas, and final release of the premises occurs only with his approval. Every precaution is taken, including proper sealing material and adequate sealing, complete inspection for persons and animals on the premises fumigated and adjacent premises as well, of appropriate gas masks and other necessary safety and working equipment. During the years that the current ordinance has been in effect, no deaths due to hydrocyanic acid gas, as used in fumigation, have occurred within the city and county of San Francisco, which comprises the area under the supervision of the Department of Public Health, although this gas has been so applied as a fumigant to a not inconsiderable extent. In the instance cited the work was done at a point outside the area under the jurisdiction of the Department and the ordinance, therefore, was not operative.

It cannot be too strongly emphasized that there is a genuine hazard, potential and real, in every job in which hydrocyanic acid gas is used as the fumigant.

IN CONCLUSION

It is apparent, from our experience in this one instance at least, that, while methylene blue solutions are of undoubted and even life-saving value in the treatment of those affected by cyanid poisoning due to the ingestion of cyanid, it probably offers very much less as an antidote against hydrocyanic acid gas.

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DISCUSSION

C. D. Leake, Ph. D. (Unnversity of California Medical School, San Francisco).—The report of Doctors Geiger and Gray on a fatal case of poisoning by hydrocyanic acid gas is very timely. The gas is widely used in fumigating, and in spite of many precautions it constitutes a severe, industrial hazard. The action of cyanid, like that of other acute poisons, is dependent on the rapidity with which a toxic concentration is reached in the cells of the body upon which it acts. The classic work of Lovenhart (summarized particularly in *Archives of Internal Medicine,* 21:109, 1918) showed that the tissues most susceptible to cyanid are those of the medullary centers. Cyanid is much more rapidly absorbed when inhaled as a gas than when ingested as the sodium salt through the stomach. A great mass of experimental evidence has accumulated to show that methylene blue protects in cyanid poisoning by forming methemoglobin, which then combines with cyanid to form cyanhemoglobin (Hug and Chen, Amer. J. Med. Sci., 188:767, 1934; Haggard and Greenberg, J. A. M. A., 100:2001, 1933; Hanzlik and Richardson, J. A. M. A., 102:1740, 1934; and Wendel, Jour. Pharm. Exper. Therap., 54:283, 1935). The fact still remains, however, that this work does not rule out the possibility that methylene blue may act by replacing cellular respiratory catalysts, which are known to be inactivated by cyanid, as proposed by Brooks (Proc. Soc. Exper. Biol. Med., 29:1228, 1932), and applied clinically by Geiger (J. A. M. A., 101:269, 1933). An important factor, neglected by the experimental proponents of the methemoglobin formation theory, is that methylene blue will not form methemoglobin until hemolysis of red cells occurs. This observation was made in our laboratory two years ago, but was never reported. Hemolysis with methylene blue requires from half an hour to an hour to take place. The rapidity of clinical improvement on methylene blue administration in cyanid poisoning suggests that the dye does not act only by virtue of methemoglobin formation. On intravenous injection, methylene blue should not exceed a dosage of 25 mgm./kg. More than this may be toxic.

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P. J. Hanzlik, M. D. (Stanford University School of Medicine, San Francisco).—This additional note by Doctors Geiger and Gray continues a commendable practice of reporting results with a new plan of treating cases of poisoning which has created a nation-wide interest. It is to the everlasting credit of Doctor Geiger that he, an alert public health official, has taken advantage at every opportunity of the achievements in medical research for the best interests of the public. Otherwise, methylene blue in cyanid poisoning might still be only an interesting experimental demonstration. But today there is no longer any doubt that this dye has become a useful life-saving measure, thanks largely to our conscientious colleagues of the San Francisco Department of Public Health.

The results in the first case reported by Drs. Geiger and Gray confirm, of course, the value of methylene blue in cyanid poisoning, but the authors appear to be doubtful of its value in the second case, where hydrocyanic acid vapor was concerned. The chances of successful treatment of cases of poisoning from hydrocyanic vapor are undoubtedly much more limited than those from swallowing potassium or sodium cyanid. However, a lack of success in poisoning from the vapors is to be ascribed to a rapidly fatal action, the result of a highly efficient pulmonary absorption, and not to any inherent peculiarity or difficulty in the actions of methylene blue under these conditions. Fundamentally, the actions of the cyanogen (CN) group are the same whether inhaled, injected, or swallowed, and methylene blue also acts the same way on the blood under all these conditions. The time element in the treatment is the most important consideration. If an injection of methylene blue can be made promptly, and before the hydrocyanic acid has completed its poisonous action, the same beneficial result should follow as when it is injected after the taking of cyanid. According to the report, methylene blue was successfully given twice in the second case, and the immediate reactions both times were favorable, as might be expected. The patient was temporarily improved, but presently got worse. It is at this point where a legitimate difference of opinion might arise as to continuation of the same, or selection of another, treatment. It is possible that further relapses might have been stopped, if the treatment with methylene blue had been continued, or changed to injections of sodium nitrite and thiosulphate. The latter combination is more efficient as a methemoglobinizer than is methylene blue. On the other hand, it is entirely possible that the functional efficiency of the respiratory center was so low (and for that matter other functions as well) as the result of an apparently prolonged exposure to the hydrocyanic vapor, that no kind or amount of treatment could have restored the physiologic state. In other words, the various physiologic functions might have been irreversibly inhibited or poisoned by the cyanid. Under these conditions the use of sedatives would, in my opinion, be contraindicated. It is conceivable that the cause of death in this case was not the result of exposure to the hydrocyanic vapors, because the rule is a rapidly fatal action or a rather prompt recovery, but to some other cause.

As far as I know, most authorities deny the rapid formation of cyanhemoglobin from an action of the cyanogen (CN) directly on blood. Although a slow formation has been postulated, this is contrary to the generally accepted view that cyanhemoglobin forms only in the presence of methemoglobin. It is the rapid formation of the innocuous cyanmethemoglobin (cyanhemoglobin) which explains the benefit derived from the injection of methylene blue, which, first of all, converts oxyhemoglobin of the blood to methemoglobin.

It is true, as stated by Drs. Geiger and Gray, that a spectroscopic examination of the blood for methemoglobin would be of doubtful value, because this is not a sensitive method. But a determination of the oxygen capacity of the blood would show a reduction, a virtual proof of the presence of methemoglobin, as has been demonstrated in animals. I agree with the authors that chemical examination for cyanid in the blood and tissues is futile, even in rapidly fatal cases, owing to the swift oxidation of this ion to oxycyanate and sulfocyanate.

There is no doubt of the greater value of protective measures than of running a risk of poisoning and depending on antidotal measures for eliminating the hazards accompanying fumigation with hydrocyanic vapors. The procedures used under the supervision of the San Francisco Department of Public Health are to be commended for their success. The careful consideration of every detail in the conduct of fumigation operations, and the warnings given by this department, testify again to a keen appreciation of the scientific management of, and a deep concern about, all matters pertaining to the public welfare.

THE LAW OF INCOMPETENCY*

By R. Lee Chamberlain †
San Francisco

PERSONS of unsound mind have always received special protection under our law. This special protection is codified in California as Sections 38, 39 and 40 of the Civil Code, which provides that:

> "A person entirely without understanding has no power to make a contract of any kind, but he is liable for the reasonable value of things furnished to him necessary for his support or the support of his family."[1]

On the other hand, "a conveyance or other contract of a person of unsound mind, but not entirely without understanding, made before his incapacity has been judicially determined, is subject to rescission . . ."[2] and

> "After his incapacity has been judicially determined, a person of unsound mind can make no conveyance or other contract, nor delegate any power or waive any right, until his restoration to capacity. . . ."[3]

CONNOTATION OF "NON COMPOS MENTIS"

The words "insane," "incompetent," "unsound mind," are all expressed in law by the term *non compos mentis*; but this term has no exact meaning: it includes all kinds of mental unsoundness recognized by the law, and its meaning varies with the type of matter under consideration.

In a medical sense, insanity or unsoundness of mind may be anything short of a mind wholly normal and free from any defective coördination arising from any cause. With the law we are only concerned with that degree of variation from the normal as will put in operation the law's protection applicable to the particular case to be considered.[4]

There is the degree of unsoundness of mind, which has to deal with the responsibility of the individual for crime. When dealing with crime, the law is concerned with ascertaining whether the individual, at the time of the commission of the alleged crime, had sufficient mental capacity to distinguish right from wrong, as applied to the particular act in question. In a criminal trial, too, the law is concerned with the ability of the person charged to properly conduct his defense at the time of trial.

Again, in civil actions the law is concerned with different degrees of unsoundness of mind; for, as has been noted, if the person in question is entirely without understanding the contract is void, while if not entirely without understanding the contract is voidable. The principal difference between a void and a voidable contract is that in a voidable contract the consideration received must be returned or tendered.[5]

There are two principal forms of court proceedings with which you are all undoubtedly familiar, for in both expert testimony on mental competency plays an important part.

COURT PROCEDURE IN COMMITMENT TO A STATE HOSPITAL

There is the commitment to the state hospital, where the question to be determined by the court is whether the individual before the court is "so far disordered in his mind as to endanger health, person, or property . . ."[6] for, if so disordered, he should be confined in a state hospital until recovery, when he will be discharged by the medical superintendent of the hospital.

COURT PROCEDURE IN APPOINTMENT OF A GUARDIAN

The other court proceeding is the appointment of a guardian where the question to be determined by the court is whether the alleged "incompetent person" is unable unassisted to properly manage or take care of himself or his property and, by reason of such incompetency, is likely to be deceived or imposed upon by artful or designing persons.[7]

This latter proceeding is important, because it is this judicial determination of incompetency that is referred to in Section 40, Civil Code, when it says: "After his incapacity has been judicially determined, a person of unsound mind can make no conveyance or other contract, nor delegate any power or waive any right, until his restoration to capacity."

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* Read before the Neuropsychiatry Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1935.

† Deputy Attorney-General, State of California.

In other words, after this adjudication and the appointment of a guardian, it is no longer a question of the competency or incompetency at the time as to a particular contract, for the court has determined for all future contracts that the person is incompetent; therefore all contracts by the ward are void.[8]

THE INDIVIDUAL IN A STATE HOSPITAL

This is not true of the adjudication that determines that an individual is to be confined in a state hospital. The adjudication of commitment to a state hospital goes no further than to require the confinement at the hospital.[9] A person ordered confined in a state hospital is, in relation to his civil contracts, and in relation to his responsibility for crime, in the same position as any other person. That is, he may sign a deed, draw a will, enter into a contract, deposit and withdraw moneys from banks,[10] and do any of the things that we do in ordinary business life, provided, of course, that, as to the act in question, he is not *non compos mentis*.[11]

He is, likewise, responsible for acts of a criminal nature,[12] provided he knows the difference between right and wrong, as applied to the particular act. I can most forcibly bring this responsibility for criminal acts to your attention by relating to you the facts in the matter of *People* v. *Willard*.[13]

REPORT OF CASE

In 1905, in Ukiah, Sheriff Smith of Mendocino County was shot and killed by Frank Willard. Willard was born and raised in Mendocino County, and had been twice previously committed by the Superior Court in Mendocino County to the State Hospital at Mendocino, and on each occasion, after remaining there a short time, had recovered and had been discharged from the asylum, his second discharge being about two years before the shooting.

Two days prior to the homicide, Willard appeared in the city of Ukiah, and the sheriff was informed that Willard was acting in a peculiar manner. One morning, about 8:30 o'clock, he apprehended Willard and took him to the sheriff's office; leaving him there, the sheriff went to the chambers of the judge of the Superior Court, made the affidavit to the effect that Willard was insane, and that it was dangerous for him to be at large. The hearing was fixed for nine o'clock that same morning, and Willard was brought to the judge's chambers for the purpose of examination. Two physicians were summoned as medical examiners. After an examination they reported that he was insane, homicidal, and dangerous. On this report Willard was adjudged insane by the court, and ordered committed to the Mendocino State Hospital for care and treatment. As the judge was signing the order of commitment, Willard declared he was not insane and should not be sent to an asylum, and that it was an outrage, etc., and started to leave the judge's chambers. The sheriff followed for the purpose of restraining him. As Willard approached the door, he drew a pistol from his pocket, opened the door, and as he stepped into the hallway whirled and fired at the sheriff, killing him instantly. Willard then escaped and hid in the brush on the hillside about a mile and a half from the scene of the tragedy. He was apprehended, and after a short stay at the hospital he was placed on trial for murder and the jury returned a verdict of murder in the first degree, which carried with it the death sentence. The case was appealed to our Supreme Court, and on such appeal it was urged on behalf of Willard that he was irresponsibly insane at the time of the killing.

The Supreme Court of this State, in upholding the verdict and judgment of guilt, said in part:

> "The fact that the appellant had been ordered committed to the Mendocino State Hospital for the insane immediately prior to the homicide did not of itself exempt him from responsibility for the killing of deceased. He might have been suffering from partial insanity, such as would justify his detention in the asylum for care and treatment, and still, as we have seen, not be insane to such an extent as to be deemed irresponsible in law for his conduct. The fact that he was committed to the asylum did not conclusively establish the fact that he was insane at all. Notwithstanding the commitment, it was a question for the jury to determine whether he was in fact insane and to what extent. They were in nowise concluded by the report of the medical examiners that appellant was insane, or by the opinion of the medical examiners as to the nature of his insanity, or by the judgment which declared him insane, and ordered him committed to the asylum. The report of the medical examiners and the judgment and order of commitment being before them, were to be regarded by the jury only as evidence bearing on the question of insanity. These were to be considered by them, but what weight or credibility, if any, they should give them was entirely a matter for their determination."

COMMENT

This same rule applied to all three of the commitments, even the one concluded a few minutes before the killing.

So we see that a commitment to a state hospital is not a judicial determination of insanity, so far as criminal acts are concerned. Neither is it a determination, so far as civil actions—that is, contracts and conveyances—are concerned.

On the other hand, the finding of incompetency or insanity in a proceeding for the appointment of a guardian is a judgment, and is notice to the world and binding on all persons who thereafter deal with the ward. After such a hearing and judgment, the law will not permit a showing in a subsequent civil matter to the effect that the person under guardianship was at the time of the transaction in question competent to understand the nature thereof; for in law the ward is incompetent and stays incompetent without a lucid moment or interval, until the signing of an order by the judge restoring such person to competency.[14]

This rule, however, does not apply to responsibility for criminal acts.

RECOVERY FROM THE ESTATE OF AN INCOMPETENT PERSON

A strict and narrow interpretation of Section 40 of the Civil Code, which is the one that declares that after the adjudication of incompetency and the appointment of a guardian no contract can be made, would prohibit recovery from the estate of the incompetent for any services or goods furnished to the ward. However, even though under guardianship a ward's estate may be charged with paying the reasonable value of necessities furnished to the ward. The guardian is charged with supplying such things to the ward,[15] and if he does so furnish what are commonly called necessaries of life, such as food, clothing and shelter and other necessary services, others furnishing or attempting to furnish them to the ward cannot be said to be furnishing necessities.

For example, a ward's estate cannot be charged for a suit of clothes furnished to him when the guardian has supplied him with the necessary clothing. As to furnishing services under the heading of necessities, I find a unique situation in which the lawyers appear to have the best of the alienists; for in one California case, the fees of an alienist for making examinations and testifying in a guardianship proceeding were not allowed against the estate of the incompetent, the court saying:

> "We know of no presumption that services rendered in observation and consultation by an expert alienist to determine the mental condition of a person are either necessary or beneficial to such person." [16]

While in another case an attorney's fee was allowed, the court saying:

> " . . . We are inclined to the belief that services rendered by an attorney in an attempt to restore an incompetent to capacity should be classed as necessaries of life." [17]

The matter is about a draw, however, for the doctor, out of his claim for a $1,800 fee, received $45, and the court ruled that the lawyer's services were of the reasonable value of $50. To return seriously to these two cases, it appears, in the alienist fee case, that the services were not rendered at the request of the incompetent, and the court found they were of no benefit to the incompetent, but were rendered at the request of relatives for the purpose of showing to the court that guardianship was necessary, and that guardianship proceeding were dismissed without the appointment of a guardian. The $45 fee was allowed because there was a showing that at one time the doctor did treat and prescribe for the incompetent. I feel that in a proper case where the services are rendered at either the request of the incompetent or the guardian or relatives, where it is shown that the treatment or examinations were for the benefit of the incompetent, the court is authorized to allow and order paid from the estate the reasonable value of alienist services. In the attorney's fee situation the court explains that

> "circumstances may well be imagined where a guardian as well as members of the family of the incompetent turn a deaf ear to his urgent request that he be restored, and it would seem unjust to deny reasonable compensation to the attorney, who is instrumental in bringing such a situation to the attention of the court, in order that the status of the incompetent be determined."

LEGAL COMPETENCY

In addition to the special types of civil proceedings we have been discussing, the question of legal competency may arise in any civil action involving a contract. This occurs when the validity of the contract is questioned on the ground of the incompetency of one of the parties to it. When such an issue is raised the judge or jury will hear testimony tending to prove or disapprove this issue. In these various proceedings the insanity will be proved by the testimony of nonexpert, as well as by the expert witnesses appointed by the court or called by the parties; for all persons are in law considered experts on mental competency.

Paragraph 10 of Section 1870 of the California Code of Civil Procedure provides that the opinion of an intimate acquaintance may be given respecting the mental sanity of the person, the reason for the opinion being given.

The term "intimate acquaintance" is rather flexible. It is a matter of decree going to the weight of the evidence. A person very well acquainted with an individual and having an exceptional opportunity to observe his actions would undoubtedly have more weight with the judge or jury than one having a lesser acquaintanceship or lesser opportunity to observe.

When rescission is sought, it is not necessary to show that a person dealing with the alleged incompetent had knowledge of the incompetency, nor is it necessary that there be any element of fraud; all that is necessary is that the trial court find that the person in question was in fact incompetent at the time he enters into the contract to the degree necessary to make the contract in law void or voidable.[18]

The degree required by law is that the party did not have sufficient mental capacity or sufficient physical energy to transact the business in question, and did not have sufficient mental capacity to understand the nature, purpose and effect of said alleged contract. To put it in another way:

The court is concerned with the question, "Was the party mentally competent to deal with the subject before him with a full understanding of his rights?" [19]

This question is primarily for the trial court or jury, and their findings will not be disturbed on appeal if there is any rational ground for the trial court's holding.

Of course, all persons are presumed to be sane until the contrary is proved, and in civil actions one alleging insanity has the burden of proving it by a preponderance of evidence.[20]

DISTINCTION BETWEEN "TRUE CONTRACTS" AND "CONTRACTS IMPLIED BY LAW"

The distinction between the two classes of cases—*true contract* and those *implied by law*—is aptly illustrated by two cases reported in Volume III, California Appellate Reports. The first of these—*Nielsen* v. *Witter*,[21] was an action on a common count for money had and received brought by an incompetent, through his guardian, to recover $1,500 paid by him to an attorney for legal services. Prior to commencement of the action, a notice of rescission was served upon the attorney by the guardian. It was held by the court that plaintiff had no mental capacity when he executed the contracts and that he was not bound by them, and the $1,500 was ordered returned.

The second case, *Estate of Nelson*,[22] involves the same facts, and is an application for allowance of attorney's fees due for services rendered the incompetent. On the theory of contract implied in law, the court made an order fixing the sum of $1,250 as the reasonable value of the attorney's services rendered to the incompetent,[23] and ordered this amount paid by the guardian from the estate.

COMPETENCY TO MAKE A WILL

There are also will contests. A clear statement as to competency to make a will may be taken from a California case:

> "It is not every symptom or indication of insanity which will render one incompetent to dispose of his property. It has been said that if one is able to understand and carry in mind the nature and situation of his property, and his relations to his relatives and those around him, with clear remembrance as to those in whom, and those things in which he has been mostly interested, and is capable of understanding the act he is doing and the relation in which he stands to the objects of his bounty, free from any delusion, the effect of disease, which might lead him to dispose of his property otherwise than he would if he knew and understood what he was doing, he has the capacity to dispose of his property." [24]

RESPONSIBILITY FOR CRIMINAL ACTS

To return to the question of responsibility for criminal acts which we know is not affected by any of the proceedings we have been discussing, permit me to give you a quotation from the case of *People* v. *Troche*: [25]

> "In this State, in order that insanity may be available as a defense to a crime charged, it must appear that the defendant, when the act was committed, was so deranged and diseased mentally that he was not conscious of the wrongful nature of the act committed. If he has reasoning capacity sufficient to distinguish between right and wrong, as to the particular act he is doing, knowledge and consciousness that what he is doing is wrong and criminal and will subject him to punishment, he must be held responsible for his conduct. Although he may be laboring under partial insanity, as, for instance, suffering from some insane delusion or hallucination—still, if he understands the nature and character of his action and the consequences—if he has knowledge that it is wrong and criminal, and that if he does the act he will do wrong, such partial insanity or the existence of such delusion or hallucination is not sufficient to relieve him from responsibility for his criminal acts."

IN CONCLUSION

We often see exhibitions in criminal cases where attorneys for defendants, assisted by their alienists, attempt to bring before juries various theories of irresponsibility and shades of insanity not falling within the above limitation. These exhibitions are not to the credit of either profession, the members of which should be better informed, and if their respective professional ethics are not sufficient to keep them properly circumscribed, an enlightened court should instruct and control them. Where abuses occur all three are to blame. One cannot offend without the connivance, assistance or at least toleration of the others. It occurs to me that improvement in this type of practice could be a proper sphere of activity for the Committee on Ethics of your organization.

State Building.

REFERENCES TO LEGAL AUTHORITIES

1. Civil Code, Section 38.
2. Civil Code, Section 39.
3. Civil Code, Section 40.
4. Castro v. Geil, 110 Cal. 292; More v. Calkins, 85 Cal. 177.
5. Sharp v. Mortgage Security Corporation, 215 Cal. 287.
6. Political Code, Sections 2168 and 2171.
7. Probate Code, Section 1460.
8. Hellman Bank v. Alden, 206 Cal. 592.
9. People v. McConnell, 80 Cal. App. 789.
10. Fetterley v. Randall, 92 Cal. App. 411.
11. Guardianship of Carniglia, 139 Cal. App. 629, 34 Pac. 2nd, 752.
12. In re Buchanan, 129 Cal. 330; People v. Sloper, 198 Cal. 238.
13. People v. Willard, 150 Cal. 543.
14. O'Brien v. United Bank, 100 Cal. App. 325.
15. Probate Code, Section 1502.
16. McClenahan v. Howard, 50 Cal. App. 309, at 313.
17. Estate of Doyle, 126 C. A. 646.
18. Neale v. Sterling, 117 Cal. App. 507.
19. Union Pacific Railway Company v. Harris, 158 U. S. 326; Carr v. Sacramento C. P. Co., 35 C. A. 439.
20. Albertson v. Schmidt, 128 Cal. App. 344.
21. Nielsen v. Witter, 111 Cal. App. 742.
22. Estate of Nielson, 111 Cal. App. 744.
23. Estate of Doyle, 126 Cal. App. 646.
24. Avery v. Avery, 42 Cal. App. 100; Estate of Motz, 136 Cal. 558; Estate of Houston, 163 Cal. 166.
25. People v. Troche, 206 Cal. 35.

WHAT THE HOSPITAL MEANS TO THE PATHOLOGIST*

By Robert A. Glenn, M. D.
Oakland

In these parlous times of depressed or uncertain values, it might not be amiss to pause and evaluate such perquisites as may have accrued to us as hospital clinical laboratory directors. Since it would be unseemly, if not impossible, to discuss such acquisitions of worldly wealth as money, property, automobiles, even wives and families, let us confine our considerations to one subject alone, namely, the hospital.

PLACE ACCORDED TO LABORATORY DIRECTORS

It is given to but few of us to attain the cloistered security of teaching professorship of the healing art as pertaining to laboratory diagnosis. The bulk of us are what have been described, perhaps somewhat facetiously, as "bread-and-butter" pathologists, whose chief concern is making a living for ourselves and those dependent upon us. Not for us are the haloed refulgence of the seats of the learned in ivy-clad tradition; and no doting Alma Mater enfolds us in sympathetic embrace, beaming a welcome with the nine-o'clock scholars and in indulgent love sending us forth with joyous release as the clock strikes five. Nor are we booned with three or four months each summer in which to indulge, unhindered, our pet or secret joys, be they mountain-climbing, deep-sea fishing, long-distance motoring, or even perhaps the thrill of undisturbed puttering with some laboratory *Arbeit*. For most of *us*, life begins (and mayhap ends) with the urgently insistent call of some hospital whose laboratory needs are the cross we bear.

Most of us, indeed, are associated with hospitals as directors of clinical laboratories: no need for me to enlarge on this picture. We know, all too well, the composite of boards of directors, superintendents, staff doctors, patients, technicians, etc. Of that most unholy of all diabolic distractions, "The Laboratory Committee" of the staff, let me say no word except, "From this, O Lord, deliver us!"

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* Chairman's address, Pathology and Bacteriology Section of the California Medical Association, at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

It is perhaps disturbing to note that for most of us, in fact, more than 95 per cent of the time and effort of our modern hospital laboratory staff is devoted to routine work. Furthermore, when we consider the more than seven thousand hospitals at present in the United States, providing a total capacity of approximately one million beds, of which probably 750,000 are occupied by patients daily, we are somewhat aghast at this vast host of sick people who are responsible for the 95 per cent routine laboratory work already mentioned.

THE VALUE OF HOSPITAL CONNECTIONS

Unalluring as it may be, such is our job: such is our walk in life. And the source of all our joy or woe is the aforesaid modern hospital which provides us our workshop, tools and material with which to fulfil our several destinies. Admitting that without the hospital there still remains a niche of usefulness as an independent free-lance not devoid of attractive possibilities, still the comforting stability of a hospital connection is not unappealing to most of us. The prestige of identification in an official capacity with an institution of good repute, and the inspiration for accomplishment offered by such an association cannot be tangibly measured. The writer cherishes with pride the memory of such an association in one of the country's most renowned clinics, and although almost a quarter of a century has passed and absolutely no material advantage has ever accrued from it, there still remains in him the unctious recollection that he once served, briefly, as anesthetist in the clinic of John B. Deaver. Surely, then, the affiliation (perhaps years long) with a growing and going concern, a hospital for whose good name and accomplishment he can with due humility claim some small measure of responsibility, should justly arouse in him a prideful sense of affectionate devotion to that institution.

The life of the hospital laboratory director is a full life. The ever changing kaleidoscopic array of patients and their diagnostic problems occupy most of his waking hours—and not infrequently many of those reasonably allotted to restful sleep. But it was not ever thus. Some of you can recall the hospital clinical laboratory of twenty years ago. Dr. Robert Kilduff had a word for it in an article he wrote in *Modern Hospital* a few years ago. He said:

> "Located usually in dusty corners or forgotten burrows not wanted by any other department, its personnel and equipment increased and amplified only after struggle and difficulty, it is all too often regarded as a liability rather than an asset."

WRITER'S EXPERIENCE AT MERRITT HOSPITAL

It was to such a "Poor Cinderella" that the writer was called at Merritt Hospital over twenty years ago. But the trustees had determined that their institution should offer the profession an enlightened laboratory service at no cost to the patient; and to this end, having engaged a director, they gave him full charge and a free hand in equipping and developing the department. They believed that the educational value to the physicians, as well as the better service to the patient, would amply repay them for their investment.

That the experiment was a success and has operated to the satisfaction of the trustees, may be indicated by the fact that one of them, at his death some years ago, left a goodly sum of money to the hospital as an educational fund to send the director of the clinical laboratory and certain other department heads East each year for further development, to the ultimate good of the hospital and its patients.

EXPERIENCES IN OTHER HOSPITALS

What has happened at Merritt Hospital has, in some degree, been the experience of many hospitals and their laboratory directors. Of the seven thousand or more hospitals now operating in this country, over 85 per cent have been built in the last fifty years, and this rapid increase in hospitals has outstripped the number of available laboratory directors who have undergone the requisite training. It is to the hospital, then, that many of us happily pay allegiance. Not that we have unamply given in return for that which we have received, but because of our keen appreciation of the opportunities offered us to develop our faculties to qualify for that position in the organization which we rightfully occupy.

We all know that the laboratory director is supposed to be something of a walking encyclopedia. Dr. David Reisman, addressing the American Society of Clinical Pathologists at Philadelphia in 1931, said:

> "The clinical pathologist is a super-consultant. There is one specialty that is always needed by all departments—that of the clinical pathologist. And by that token his dignity rises and his responsibilities increase."

IN CONCLUSION

To every patient admitted to the hospital the clinical pathologist or his staff gives some measure of attention and, therefore, he should be the best informed and the most informative member of the staff. He is ideally situated to function as secretary of the staff organizations, and through courses of lectures to the nurses and periodic clinicopathologic conferences with the staff, he naturally assumes a position of teacher and guide. If he is the right type of man, he is acquainted with the entire activity of the hospital and its people, and is more sought after for advice and guidance by the clinicians (especially the younger men) than any other individual in the institution. He promotes a loyal devotion to his hospital family that brings him the companionable affection of all his associates, and he happily strives to develop his abilities to merit their confidence and anticipate their needs. Thus, the clinical pathologist, rejoicing in a work well done, contributes to the hospital which sponsors him his willing mite to the alleviation of the suffering sick, the aid of the clinicians, and to the glory of the hospital wherein he labors in contentment.

Samuel Merritt Hospital.

THE TREATMENT OF EARLY UNCOMPLICATED SYPHILIS*

By Stanley O. Chambers, M.D.
Los Angeles

Discussion *by C. J. Lunsford, M. D., Oakland; George H. Becker, M. D., San Francisco; Norman N. Epstein, M. D., San Francisco.*

THE treatment of early syphilis surely presents a great opportunity for the complete eradication of the disease; and if responsibility is assumed in its treatment, it should be so eradicated and to the fullest extent.

It has been determined that nineteen out of twenty patients can be assured of a clinical and serological cure under adequate and efficient treatment.

Granted such a high incidence of cure with modern methods, we can enter the therapeutic field armed with the utmost of enthusiasm, and offer to the patient possibilities undreamed of but a few years ago.

Therapeutics, however, still has room for advancement, and what we may believe and do today, may tomorrow be in the discard. Today's therapeutics do not allow for a great personal equation. The mass of scientific data formulated for the treatment of uncomplicated, early syphilis presents a therapeutic road from which very few turns can be made.

I emphasize this fact, for there still exists a hang-over of the days of confusion and rapid advance in therapeutics which deservingly gave the syphilotherapist a right to his own conclusions, even though based on scanty, uncontrolled material. This right no longer exists, and if the patient is to have a twenty-to-one chance for cure, a plan offering such possibilities, and substantiated by a mass of controlled material over years of observation must be adhered to.

THE INITIAL DIAGNOSIS

The plan begins with the identification of the disease, preferably in its seronegative phase, the demonstration of the treponema pallidum by the darkfield apparatus.

This increases the percentage possibility of cure, whereas identification in the seropositive phase lessens the percentage.

With adequate laboratory evidence, the presence of the disease is established, and the patient made a candidate for treatment.

THE PHYSICAL EXAMINATION

It is at this point that a complete physical examination should be done. The presence of complicating disease (nephritis cardiovascular disease, etc.) may well alter the fixed plan of treatment.

The appraisal of such complicating diseases at the outset of treatment becomes of inestimable value in measuring effects as treatment progresses. This point is often lost sight of, and subsequent pathologic changes then are without comparative measurement.

WHAT SHALL THE PATIENT BE TOLD?

The difficult question as to just how the entire problem should be presented to the patient now arises.

Frankness as to diagnosis and the exact duration and treatment procedure is obviously the proper attitude. Too frequently a lackadaisical attitude on the part of the physician instills the same attitude in the patient, and most inadequate and inefficient treatment results.

With a twenty-to-one chance for cure, few patients will not follow directions that are presented with deserving enthusiasm.

INVESTIGATION OF CONTACTS

One cannot dwell too strongly upon the need for careful investigation of contacts. The possibility of contagion in this stage of the disease is great, and it is the rule for both physician and patient to assume little responsibility for the protection of others. Two weeks of arsphenamin therapy is sufficient to remove the gross danger of contact infection of others, and it is most essential to control the patient's movements during that period.

DIET AND HABITS

Granted a normal, healthy individual, general consideration of diet and habits need little concern the physician. Excess is to be avoided in all things, particularly the ingestion of alcohol and energy output. The routine hygienic care of the mouth and teeth can well be emphasized.

Sexual intercourse and kissing should not be permitted during the first six months of treatment. Sexual intercourse can then be permitted provided a condom is used. The chance of pregnancy should never be allowed until the patient has completed his full treatment and observation period.

It is necessary throughout the course of treatment, especially the third and sixth months, to routinely instill in the patient a desire and enthusiasm to continue treatment to the completion of the plan which you have outlined at the outset. Coöperation in treatment is proportional to cure.

OBJECTIVE IN THE TREATMENT OF EARLY SYPHILIS

The objective in the treatment of early syphilis is radical cure; and here, unlike other phases of the disease, one is able to forcibly attack the invading organism.

The plan of treatment is a definite one, and deviation from it, even in slight degrees, may result in a complete destruction of the objective. Reaction (local and general) must be thoroughly understood, and constantly avoided or corrected. Absolute regularity and coöperation must be demanded, to achieve the goal which but once is offered. Technical perfection and a knowledge of the arsphenamins and heavy metals will likewise prove as effective as the drugs themselves.

ARSPHENAMINS

There are at the present time numerous drugs advanced for the treatment of syphilis. They are grouped under the arsphenamins and its derivatives, bismuth and mercury and the iodids.

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1935.

Arsphenamin in the treatment of early uncomplicated syphilis must be considered as the drug of choice if we are to agree with the data so far collected—earlier Wassermann reversal, lower incidence of relapse, quicker healing of lesions, and the rapidity of the disappearance of spirochetes from the primary lesion. It is true that by far the majority of physicians use neoarsphenamin in the treatment of early syphilis. The complexity of arsphenamin preparation and administration explains this fact. I am sure that it would be better to have a thorough understanding of the proper use of neoarsphenamin and cure the ninety-nine, than to insist upon the use of arsphenamin and cure the one.

PROCEDURE IN TREATMENT

The treatment outline herein reported is confined to the use of neoarsphenamin. Differences in administration between neoarsphenamin and arsphenamin, aside from technical procedure, are dosage (0.3 to 0.6 gram) and total injections per course (eight injections in the first course and six injections in subsequent courses). Otherwise the plan proceeds the same for arsphenamin as for neoarsphenamin.

Needless to say, there is no place for local treatment in early uncomplicated syphilis. With treponemicidal action as the objective in early treatment, comparatively large doses are administered in a short space of time. The first injection never exceeds 0.3 gram of neoarsphenamin or arsphenamin. There is a difference of opinion in this respect arising from the Herxheimer reaction which results from the initial injection in varying degrees.

It is a question as to whether treatment effects are sacrificed with a 0.3 gram difference in dosage, or one is to encounter grave reactions in specialized tissue which prevent further arsphenamin or permanently damages these tissues. The balance of opinion would seem to be on the latter side, and the avoidance of such reaction in the main offers a better therapeutic end-result.

The second and third injections are immediately raised to 0.75 to 0.9 gram. The first three injections are given in the first seven days of treatment. This represents a modification of the original principle of Pollitzer. From this point injections are given at seven-day intervals. The first injection of each succeeding course of neoarsphenamin again never exceeds 0.3 gram.

Arsphenamin or its derivatives are treponemicidal, and in rapidly destroying the organism, they reduce tissue resistance to the disease. Bismuth, on the other hand, is only slightly treponemicidal but raises tissue resistance. It is for this reason that bismuth in 0.2 gram is administered simultaneously with the first four injections of neoarsphenamin. The insoluble salts of bismuth represent the drugs of choice, and have been shown to have a much greater therapeutic index than mercury. Mercury has a place in other phases than that of acute uncomplicated syphilis.

From this point on, treatment is continuous with alternating courses of neoarsphenamin and bismuth with overlap at desired points. The question of continuous versus intermittent therapy still is controversial. There is no evidence in recent reports to show the superiority of intermittent therapy over that of continuous. Some years ago, however, it was thought that neuro recurrence was a more frequent complication resulting from continuous treatment, and that the development of drug fastness was its cause. Recent investigations show this not to be true, but that the incidence of neuro recurrence is no greater in continuous treatment than it is in intermittent. Alternation of neoarsphenamin with bismuth would seem to destroy the tendency to drug fastness, while the simultaneous and continuous use of both would encourage it. Continuous treatment, therefore, utilizes this principle and comprises alternating courses of neoarsphenamin and bismuth.

After the first three injections of neoarsphenamin in the first course subsequent injections are given at weekly intervals. A total of 10 to 12 injections are given, with a dosage of 0.75 to 0.9 gram. Dosage is determined on the basis of 0.1 gram of arsphenamin or 0.15 gram of neoarsphenamin per twenty-five pounds of body weight.

The bismuth course of four injections of 0.2 gram at weekly intervals then fills the time-gap between the first and second neoarsphenamin courses. This period of time, between the first and second neoarsphenamin courses, should never exceed 4 to 6 weeks. This should be emphasized; for at this point recurrence, especially neurorecurrence, is indeed a threat, and a stretching of the time interval may result in disaster.

The second course of neoarsphenamin begins with the fifth injection of bismuth, or the fifth week of the interval. Bismuth overlaps the first two neoarsphenamin injections, making the bismuth course six injections. Neoarsphenamin dosage, again starting with 0.3 gram, is raised to 0.75 to 0.9 gram and so continued throughout the course. A total of 10 to 12 injections comprise the second neoarsphenamin course. Bismuth once more fills the interim between the second and third neoarsphenamin courses. A total of six weeks represents the interim between the second and third courses, with bismuth administered at weekly intervals. Overlap with bismuth is again used with the first two injections of the third neoarsphenamin course, making a total of eight injections of bismuth for the second course of the heavy metal.

The third course of neoarsphenamin is again instituted with 0.3 gram dosage, and immediately raised to 0.75 to 0.9 gram for a total of 10 to 12 injections. The interim between course three and four is eight weeks, bismuth again filling the gap in 0.2 gram dosage at weekly intervals. A two weeks' overlap with bismuth again is allowed on the fourth neoarsphenamin course, to make a total of ten injections of bismuth to comprise the third course.

Neoarsphenamin in 0.3 gram dosage initiates the fourth course of treatment. Dosage of 0.75 to 0.9 gram again follows for a total of 10 to 12 injections at weekly intervals. A course of ten injections of bismuth 0.2 gram dosage follows at weekly intervals.

In seronegative darkfield positive primary syphilis, this point would represent the completion of treatment, granted that the blood Wassermann reaction had remained negative throughout.

In seropositive early syphilis, a fifth course of both neoarsphenamin and bismuth is necessary.

A ten weeks' interval is allowed between the fourth and fifth neoarsphenamin courses—bismuth has already occupied the interim. No overlap is advised. Ten to twelve injections of neoarsphenamin follow in the same dosage as preceding courses. This represents the fifth course of neoarsphenamin, and is followed by a fifth course of bismuth of ten injections of 0.2 gram dosage at weekly intervals.

This point represents the completion of treatment in the seropositive phase, provided the blood Wassenmann, reversed at the beginning of the first bismuth course, has remained negative throughout.

COMMENT

It is to be appreciated that the foregoing plan is confined to the treatment of uncomplicated early syphilis. Technical, serologic, toxic and intercurrent disease complications radically alter the treatment procedure. This represents a subject in itself, and is not considered in this communication.

The measurement of serologic effect is naturally a most important part of treatment. Blood specimens for serologic testing are drawn at the beginning of treatment, at the beginning of each bismuth course and at the conclusion of treatment. Reversal in uncomplicated early syphilis should occur during the first neoarsphenamin course, and should be recorded at the beginning of the first bismuth course. Succeeding blood Wassermanns should all be negative.

Examination of the spinal fluid should be made at the eighteenth week. At this point the fluid becomes of definite value in prognosticating future progress of the disease, and depending upon its reaction may alter the plan of treatment as a complication.

Routine urine examinations are made at weekly intervals.

At the conclusion of treatment, the patient enters a period of observation for a total duration of five years from the beginning of treatment.

IN CONCLUSION

A yearly examination, however, for the rest of life should be encouraged wherever possible.

The blood Wassermann reaction should be checked every two to three months during the first year of observation. Annual examinations then suffice. At the end of the first year of observation a spinal fluid examination and a complete neurological checkup should be made.

At the end of the five years' observation, granted that serological and clinical examinations are negative, the patient is pronounced clinically and serologically cured.

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DISCUSSION

C. J. Lunsford, M. D. (3115 Webster Street, Oakland).—Doctor Chambers' thesis is that the highest expectancy of serological and clinical cure of early uncomplicated syphilis lies in the seronegative stage of the primary lesion. Early diagnosis by means of the darkfield microscope, therefore, is obviously important.

His paper stresses the importance of a general physical examination, and of a frank talk with the patient before treatment is instituted in order best to obtain the patient's coöperation. The paper properly emphasizes that in this stage in patients otherwise normal the disease may be treated, rather than the patient. For this treatment one should rigidly follow a well-thought-out routine which is based on carefully prepared statistics obtained in large clinics where the treatment of many hundreds of such cases has been evaluated.

He accurately states the therapeutic action of the arsphenamins and bismuths: his routine is one of continuous treatment by alternating courses of neoarsphenamin and bismuth, with proper overlapping of the two drugs at the beginning and end of each separate course.

We differ with Doctor Chambers not at all up to this point. However, his conception of the size of the dosage of neoarsphenamin to be given and the total length of the period of time over which the patient should be treated, is different from ours. In our own routine, independent of the weight of the patient, we never give a dose of neoarsphenamin larger than .6 G. We have had referred to our office for treatment in the last year two cases of generalized arsphenamin dermatitis. We attempted to evaluate the treatment which they had received in order to explain the occurrence of the dermatitis. Such treatment differed from our routine only in that they had received .9 G. neoarsphenamin per dose rather than the .6 G. which we would have given.

No one knows when to stop treating syphilis. Our opinion is that even seronegative primary cases should be treated for as long as two years. Our routine is to emphasize the heavy metals in the second year, to occasionally substitute mercury for bismuth, and to give rest periods between courses in the second year. In our experience, one gets the best results, in the long run, by giving relatively moderate doses of the drugs used over a longer period of time.

We agree with Doctor Chambers that observation over five years should be insisted on. We think it is not practical to insist on such observations after that time. Ideally, however, because of the doubt in our mind that the patient has received a biological cure, we think he would be wise if he were examined once a year for the rest of his life.

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George H. Becker, M. D. (450 Sutter Street, San Francisco).—As Doctor Chambers has indicated, if we are to be concerned with the curing of the patients afflicted with this disease, then we must focus our attention and therapeutic efforts upon the early cases. Although syphilis, as a disease, has now become curable, we all agree that the cure is more convincing from a clinical, serological or pathological viewpoint, if therapy is early instituted. The earlier the diagnosis the better chance for cure.

Since the darkfield microscope and the complement fixation and precipitation tests have come into general usage, simplifying early diagnosis, much publicity has been given the numerous preparations of arsenic and bismuth. Doctor Chambers' paper has given us a summarization of the facts, and by outlining a definite and standardized plan of treatment, will do much to clarify the rather chaotic drug situation.

The treatment of early syphilis should be fairly routine, complications alone suggesting variations or modifications. Drug intolerance and the condition of the patient, of course, require medical judgment. Regular and continuous treatment are most important in any plan, and error toward overtreatment, rather than too early discontinuance, is preferable.

Epidemiologically, the case of early syphilis is, of course, most important. With an estimated syphilitic population of around 500,000 new active cases in the United States on any given date, and with 5 to 10 per cent of any urban group infected, we should certainly be concerned with the preventive aspect of this truly major communicable disease. All investigations would seem to indicate that the incidence does not vary from time to time, although urban groups seem to have a higher incidence than rural communities. Propaganda stimulating general use of prophylaxis has aided the European countries (notably England and Sweden) in reducing the number of new cases. Any good treatment plan should aim not only to cure the patient, but to shorten the period of infectiousness and thus limit the spread. The disease has become one of the major causes of death, and must be seriously combated by the public health authorities, aided by the physicians. Due to an unfortunate association of terms, syphilis is regarded entirely as a venereal disease, with the moral connotation attached to the word "venereal." With 7 per cent of our cases extragenital, and with innocently acquired marital infections and congenital cases making up nearly one-half of the total, it is time our people were educated to separate this disease from vice, prostitution and immorality. The euphemism of "social disease" should be discarded and cases reported by name and address, just as any other communicable disease. Not unlike tuberculosis, it should be considered by the public in much the same light. Only then can epidemiological studies be carried through to completion and the spread of the disease adequately combated. Adequate follow-up service is essential, not only to control the spread but to complete the treatment. Education of the patient in the necessity of continuous therapy is important. Health Departments should provide adequate treatment of indigents, should acquire accurate morbidity statistics through laws requiring the reporting by name and address, and should do more thorough epidemiological work, including quarantine of acute cases when necessary, ignoring the moral and police responsibilities often associated with the disease.

During the past generation we have seen the possibilities of publicity campaigns in public health efforts toward combating and controlling contagious diseases. Look at what has been accomplished in eradication of smallpox, control of diphtheria, and practical elimination of typhoid fever. Recently the efforts in poliomyelitis control were handsomely rewarded by public interest and coöperation. Cancer has reached the public mind as never before, entirely because of frank discussions and educational efforts with the people.

Such papers as Doctor Chambers has written will do much in bringing to the general medical practitioner a new stimulus to diagnose early and institute at once adequate treatment, and it is in the hands of the general profession that the future attack lies, as most patients consult the specialist only later.

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Norman N. Epstein, M. D. (450 Sutter Street, San Francisco).—A clear understanding of the principles involved in the diagnosis and treatment of syphilis in the early period is essential if the patient is to be given the greatest opportunity of cure and if the spread of this disease is to be checked. Early syphilis, that is, the time extending from the inoculation with the Treponema pallidum through the disappearance of secondary symptoms, is highly contagious, and at the same time most amenable to treatment. Therefore the earlier the disease is detected and treated, the better for the individual and the general community.

A recent comprehensive survey by the Coöperative Clinics, under the direction of the United States Public Health, shows that with the best-known treatment 83 to 86 per cent of patients in the seronegative primary stage 64 to 70 per cent of patients in the seropositive primary stage, and 61 to 82 per cent of patients in the secondary stage can be clinically cured. This period then is, as Doctor Chambers says, the golden opportunity for treating syphilis.

It should be emphasized that the continuous method of treatment is the most satisfactory from many standpoints. In the early phase of syphilis, particularly the primary stage, the patient has developed little or no resistance to the Treponema pallidum, and the use of highly treponemicidal drugs such as the arsphenamins does not permit the resistance mechanism of the body to act. Therefore, cure of the disease in this phase must be accomplished by drugs alone. If insufficient therapy is administered, the patient is very apt to develop the various forms of recurrence, especially neurorecurrence and mucous membrane recurrence. This fact must be energetically impressed upon the patient in order that he do not discontinue treatment before his year and one-half, or two years have elapsed.

We agree with Doctor Chambers in his plan of treatment, except in the matter of dosage. We do not use more than 0.6 grams of neoarsphenamin, and our initial dose is 0.45 grams. Where a severe Herxheimer reaction may be anticipated, one injection of bismuth precedes the neoarsphenamin by twenty-four hours. We have found that this dosage is adequate and less likely to produce toxic reactions, which seriously interfere with carrying out the general plan of treatment.

Doctor Chambers has presented an excellent review of the treatment of early syphilis, and his paper is of importance to all practitioners.

ACUTE PERFORATION OF GALL-BLADDER WITH GENERALIZED CHOLEPERITONEUM *

By E. Eric Larson, M.D.
Los Angeles

Discussion *by Loren L. Chandler, M. D., San Francisco; Harlan Shoemaker, M. D., Los Angeles; and Stanley H. Mentzer, M. D., San Francisco.*

Acute perforation of the biliary system occurs infrequently, is rarely diagnosed, and carries a very high mortality. Several authors have reported series of acute gall-bladder rupture, but undoubtedly many widely scattered occurrences of this condition remain unrecorded. Acute gall-bladder rupture is much more frequent than acute rupture of the biliary ducts. Recently Wolfson and Levine reported three instances of spontaneous rupture through an area of infection and weakness of the common bile duct following cholecystectomy and common duct exploration. That the acute, tense, infected, and obstructed gall-bladder ruptures with such infrequency, is due to a rich blood and lymph vascular system and the tense fibromuscular wall of the organ. The reduced virulence of bacteria by the action of the bile and the distensibility of the cystic duct must also be important factors.

TYPES OF ACUTE PERFORATIONS

The several large series reported by various authors include all types of acute perforations. These should be divided into three distinct groups. The diseased gall-bladder of long standing which has built about itself adhesions to surrounding viscera, such as omentum and coils of intestines,

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Chart 1.—*Acute Perforation of Gall-Bladder with Generalized Choleperitoneum*

Name	Sex	Age	Occupation	Result	Autopsy
1. A. H.	F	60	Maid	Recovery	....
2. O. I.	M	52	Laborer	Death	Done
3. M. M.	M	47	Laborer	Death	Done
4. L. A.	F	56	Housewife	Recovery	....
5. E. A.	M	21	Laborer	Death	Not done
6. T. O.	M	75	Laborer	Death	Done
7. S. M.	M	56	Laborer	Recovery	....
8. K. K.	M	62	Laborer	Death	Done
9. J. F.	M	60	Laborer	Recovery	....
10. I. R.	F	49	Housewife	Recovery	....
11. R. K.	M	58	Laborer	Recovery	....
12. S. M.	F	59	Nun	Death	Not done
Recovery: 50 per cent.		Death: 50 per cent.		Autopsy: 66+ per cent.	

becomes, when it ruptures, a localized disease with characteristic manifestations. Recognition of an infected mass in the upper right quadrant, associated with a classical history of an acute gall-bladder attack with an antecedent gall-bladder history, should make one suspicious of the nature of the existing pathology. The patient can be adequately prepared for surgery and the plan of attack well outlined.

The second group includes those patients in whom the acutely diseased gall-bladder ruptures and drains by fistulous tracts, either into a neighboring viscus or through the abdominal wall. Abel reports a case with the external opening below Poupart's ligament, and Bye reports a fistulous tract extending to the right flank. These patients can also be critically studied and properly prepared for surgical attack. The third and most distressing type of acute perforation of the biliary system is that in which the peritoneal cavity is flooded with visceral contents, producing a choleperitoneum which gives rise to peritonitis and toxemia. This group taxes the diagnostic acumen and display of surgical judgment, since immediate interference is mandatory. The mortality in this group ranges between 50 per cent and 100 per cent. This report will deal with twelve patients who belong to this last group. Nine of these histories are from the records of 706 gall-bladder operations, with seventy-six deaths at the Los Angeles General Hospital. Two are from the records of 353 gall-bladder operations at St. Vincent's Hospital, and one was under my care surgically at the Woodland Clinic, September, 1926. One of the patients from St. Vincent's Hospital was surgically treated by Dr. W. R. Molony, Sr., and the author, recently. (See Chart 1.)

CAUSE OF ACUTE RUPTURE PRODUCING CHOLEPERITONEUM

Acute rupture of the gall-bladder producing choleperitoneum may occur from several causes,

Chart 2.—*Series of Gall-Bladder Ruptures Reported by Twelve Authors*

Year	Author	Number of Cases	Remarks	Mortality
1890	Courvoisier	34	(Following trauma)	65 per cent
1903	Erdman	34	(During typhoid fever)	97 per cent
1905	Ricketts	273	64 operated on—21 died 154 died—160 not operated	56 per cent
1912	McWilliams	108	All surgically treated	48 per cent
1918	Buchanan	17	12 treated surgically	50 per cent
1925	Georg	348	....	42 per cent
1926	Gosset	111	33 per cent calculous gall-bladders	52 per cent
1926	Fifield	27	96 per cent calculous gall-bladders 22 drained	44 per cent
1927	Alexander	20	60 per cent calculous gall-bladders 14 drained only	35 per cent
1928	Mitchell	16	69 per cent calculous gall-bladders 5 drained only	43 per cent
1934	Eliason McLaughlin	9	89 per cent calculous gall-bladders 8 drained only	11 per cent
1935	Larson	12	85 per cent calculous gall-bladders One anaerobic infection	50 per cent

CHART 3.—*History Notations*

Previous Indigestion	Character	Pain Severity	Radiation	Shock	Vomiting
1. Several years	Sudden	Sharp	None r. u. q.	Moderate	Constant
2. Several years Acute gall-bladder three weeks	Constant	Extreme	....	Moderate	Intermittent
3. Several years	Sudden	Very severe	Right lumbar	Extreme	Once
4. Several years	Sudden	Very severe	Right shoulder Epigastrium	Moderate	Intermittent
5. None	Severe	Marked	None	Extreme	....
6. Much	Constant	Marked	Epigastrium	Moderate	....
7. Years	Constant Sharp	Moderate	....	Some	Five or six times
8. Years	Constant five days	Marked	....	Present	None
9. Sudden, 1:30 a. m.	Sudden r. l. q.	Extreme	Right shoulder Right neck	Marked	Present
10. Sudden, 7 a. m.	Sudden	Agonizing	....	Moderate	Present
11. Years	Sudden Cramping	Moderate	Costal: Epigastrium Right shoulder	Moderate	Present
12. Vague, for years	Sudden 7 a. m.	Marked	....	Marked	....

the most usual being cholecystitis associated with cholelithiasis. Violence, such as blows or piercing thrusts with sharp instruments, most notably stab-wounds, may result in choleperitoneum. Spontaneous rupture of the viscus may occur because of weakness of the gall-bladder wall, secondary to thrombosis of the vascular system or ulceration resulting from pressure of gall-stones. Ulceration due to infection, most notably typhoid or streptococcus, may lead to spontaneous rupture of the viscus. The perforation is usually at or near the fundus, and is found most commonly in women, they having a greater susceptibility to gall-bladder disease. It may happen at any decade of life, Power and Johnston reporting such an occurrence in a child two years of age due to empyema of the gall-bladder associated with ascaris lumbricoides. Most instances fall in the latter decades of life.

Chart 2 represents series reported by twelve authors including the number of patients, salient remarks and mortality. All these series contain instances of gall-bladder ruptures of the three main types. The writer's series is included in the third group, representing rupture with generalized biliary peritonitis.

DIAGNOSIS

Acute gall-bladder rupture with choleperitoneum is comparable to the perforation of any viscus, and since it is spontaneous, the diagnosis is most

CHART 4.—*Examination and Working Diagnosis*

Abdominal Rigidity	Distention	Peristalsis	White Blood Count	Preoperative Diagnosis
1. Epigastrium and r. u. q.	Slight	....	16,800	General peritonitis from appendix or ruptured peptic ulcer
2. Present	Mild	....	....	Intestinal obstruction
3. Present	Present	Not stated	16,500 polys 80 per cent 18 hours later 21,500 and 86 per cent	Perforated peptic ulcer? Ruptured appendix?
4. Present	Mild	Not stated	17,500 polys 86 per cent	Ruptured gall-bladder
5. Present	Present	....	Not made	Abdominal stab wound
6. Present	Present	None	Not made	Abdominal malignancy Possible cancer head of pancreas Possible obstruction of common duct Addison's disease (jaundiced)
7. None	None	Not stated	6,200	Gall-stones Acute cholecystitis
8. Present	Present	None	....	None made
9. Present r. l. q.	Present	Present	15,400 polys 92 per cent	Perforated ulcer or ruptured appendix
10. Extreme	....	....	22,000 polys 96 per cent	Perforated peptic ulcer
11. Marked	Marked	....	17,000 polys 93 per cent	Ileus, cause unknown
12. Marked	None	....	13,200 polys 78 per cent	Perforated peptic ulcer

CHART 5.—*Pathology*

Perforation	Size	Position	Gall-stones
1. Edges necrotic	1½ centimeters	Fundus	Present
2. Gall-bladder gangrenous	....	Fundus	Present
3. Ragged	4 millimeters	Medial wall	Present: smear B. coli
4. Ragged	1½ centimeters	Medial wall	Present in cystic duct
5. Knife stab	....	Fundus	None
6. Tear	Gall-bladder almost destroyed	....	Stones in common duct; duct 2 centimeters in diameter: cancer head of pancreas
7. Ragged	Not stated	Medial wall	Present
8. Ragged ulceration	1½ centimeters	Fundus	Present in cystic duct: common duct stones
9. Rupture	Not stated	Not stated	Present
10. Rupture	⅔ centimeter	Fundus, lateral side	Present; outside of gall-bladder
11. Ragged	1 centimeter	Fundus	Present
12. Ragged	1 centimeter	Cystic duct	None

confusing. The patient presents the picture of a sudden severe intra-abdominal catastrophe with diffused abdominal symptoms. (See Chart 3.) In the very early stages of the disease a perforated peptic ulcer is usually suspected. The next most frequent diagnosis is a ruptured, high-lying appendix with general peritonitis. Cystic duct obstruction with empyema of the gall-bladder is commonly suspected. Later the distention, pain, and vomiting may lead to the diagnosis of an intestinal obstruction with ileus. On the other hand, acute pulmonary infections or coronary thrombosis may mislead one to the erroneous diagnosis of an unusual gall-bladder syndrome. However, if the history indicates a long standing biliary disease antedating acute cholecystic disease, becoming complicated by a sudden severe pain in the upper abdomen and followed by generalized abdominal signs of peritonitis, a perforated gall-bladder with choleperitoneum should be suspected. A mild rise in temperature, with an increased white blood count, aids in forming a correct diagnosis. Rigidity, rebound tenderness, and distention are usually present. (See Chart 4.) The patient gives evidence of a generalized peritonitis. The type of bacteria, if present and released with the bile, may alter the degree of severity and toxemia of the peritoneal irritation.

TOXIC EFFECTS OF FREE BILE IN THE ABDOMINAL CAVITY

It is of interest to review some of the experiments that have been done relating to the toxic effects of the bile free within the abdominal cavity.

Frankel and Krause, in 1899, injected sterile bile into the peritoneal cavity of guinea-pigs and dogs without any untoward effects. Rents in the gall-bladder produced experimentally were proven healed in two to six weeks later, at necropsy. There was no obstruction to the free flow of bile in the common duct.

Wangensteen, in 1926, ligated the common duct and cut a hole in the gall-bladder in six dogs and later in rabbits, with death within twenty-four hours. He concluded that death was due to the toxicity of the bile.

Horrall, in 1929, confirmed the findings of Wangensteen. He concluded that continuous drainage of bile into the peritoneal cavity is rapidly fatal because of the toxicity of the bile salts.

Since bile peritonitis was considered a toxemia, Rewbridge, in 1931, made some experiments and concluded that bile free in the abdomen of dogs produced in every instance an invasion by B. Welchii. This was presumably the result of changes in the intestinal wall, due to increased permeability caused by the action of the bile salts. He also found that blood examinations for bile salts and bilirubin are of no value in determining the amount of drainage of bile into the peritoneal cavity. He concluded that the toxemia is due to a peritonitis by B. Welchii, and not to bile salts.

Since all herbivorous animals and only a few humans have the anaerobic organisms within the gastro-intestinal tract, one would expect complications of anaerobic infections in humans to be most unusual. In this series, anaerobic infection was encountered only once. The patient, number eleven (Chart 1), developed gas-gangrene throughout the entire length of the wound and adjacent tissues. The condition was treated by wide exposure and constant irrigations with an oxidizing solution. A good recovery resulted except for a marked incisional hernia.

TREATMENT

The treatment embraces two very important features: The early suspicion or definite recognition of the disease, and the immediate surgical interference. Preoperative and postoperative care of these patients demand unfailing attention. In contrast to perforated peptic ulcer, we have in choleperitoneum an immediate bacterial invasion of the peritoneum, while the contents following perforation of a peptic ulcer are usually rendered sterile for many hours by the action of the gastric

CHART 6.—*Operations*

Anesthesia	Condition	Procedure
1. Ether	Fair	Cholecystectomy: local and pelvic drainage
2. Ether	Poor	Cholecystostomy: three rubber drains Kidney foramen and between
3. Ether	Poor	Cholecystostomy: local drainage
4. Ether	Fair	Cholecystostomy: local drainage
5. Ether	Poor	Repair of laceration
6. No operation	....	....
7. Ether	Fair	Cholecystectomy: local drainage
8. No operation	....	....
9. Local, 150 milligrams	Poor	Cholecystostomy: local drainage
10. Spinal, 200 milligrams	Poor	Cholecystectomy: local drainage Two tubes in pelvis
11. Ether	Poor	Cholecystostomy: local drainage
12. Ether	Poor	Cholecystostomy: local drainage

hydrochloric acid. With the abdomen open and free bile widely scattered, the surgeon must exercise good operative judgment in his procedure. The perforation is easily found. However, Nogués and others have reported choleperitoneum without finding an opening, assuming the bile to be a transudate from the biliary system. The perforation (Chart 5), as stated previously, is usually at or near the fundus, although in one instance it was localized in the cystic duct. Gall-stones usually present in these patients may be free in the abdominal cavity, and must be looked for and removed, since they are foreign bodies and may lead to complications. Cultures should always be made, since anaerobic organisms may be present, as in one of this series. The question of good toilet and simple cholecystostomy with adequate drainage, or cholecystectomy, with new areas for absorption opened up, must be determined. Cholecystostomy, with as little trauma as possible, and perhaps an ileostomy in the delayed and extremely toxic patients, may be safest. The age of the patient, his general condition, age of the perforation, and laboratory data, as well as the skill of the surgeon, must be the deciding factors. A cholecystectomy can perhaps be more safely done later. We know so little regarding liver function and liver shock that conservative measures seem most important especially in an obese patient or one having suspected myocarditis. Even though the bile may be sterile, the trauma connected with cholecystectomy may be severe enough to cost the life of a patient. In this series cholecystectomy was done three times, cholecystostomy seven times.

CHART 7.—*Acute Perforations of Gall-Bladder*

1. Perforation	Process remaining localized—by adhesions, omentum and coils of intestines.
2. Perforation	Fistulous tract communicating between gall-bladder and gastrointestinal tract or through the abdominal wall.
3. Perforation	Gall-bladder contents scattered through the abdominal cavity. (Choleperitoneum.)

CHART 8.—*Summary*

1. Ruptured gall-bladders fall into three distinct types in regard to diagnosis, surgical pathology, and treatment. The first type concerns those that remain localized. The second establishes fistulous tracts for drainage and the third floods the peritoneal cavity with the contents of the biliary tract. This paper reports twelve instances of the third group. Ten were surgically treated. The mortality was 50 per cent. Two not surgically treated died.

2. The diagnosis is difficult. It was made preoperatively in only one instance. Eternal vigilance must be exrcised in all delayed treatment in acute gall-bladder disease for the recognition of perforation, because early surgical interference is mandatory.

3. Culture of peritoneal fluid for type of bacteria present is urged. Anaerobic organisms may be present and operative procedure, therefore, altered. It is generally considered that cholecystostomy and adequate drainage is safer than cholecystectomy. In this series cholecystostomy was done seven times, cholecystectomy three times.

4. One patient's recovery was complicated with anaerobic infection of abdominal wall with recovery.

The postoperative care of these patients embodies the same principles as used in any case of peritonitis. Vigilance in the supply of sufficient fluids, such as glucose and saline by intravenous or subcutaneous routes, is important. Adequate morphin for pain and preservation of intestinal muscular tone is desired. Drainage of such secondary intra-abdominal collections as often occur in the pelvis may be necessary.

The presence and character of any bacteria in the bile may, of course, modify any of these procedures.

SUMMARY

1. A series of twelve patients with generalized biliary peritonitis following ruptured gall-bladder is reported. Ten were operated upon and two treated medically. The mortality was 50 per cent.

2. Rupture of the viscus must be constantly kept in mind in all instances of acute gall-bladder disease. Early recognition and prompt surgical measures are mandatory.

3. The ruptured gall-bladder that remains localized or forms fistulous tracts for drainage is more readily diagnosed and more safely cared for surgically.

4. Cholecystostomy with efficient drainage is safer than cholecystectomy.

5. Ileostomy should occasionally be utilized. Culture of the peritoneal exudate is urged. Sterile bile is "devoutly to be wished."

1930 Wilshire Boulevard.

DISCUSSION

LOREN L. CHANDLER, M. D. (Stanford Hospital, San Francisco).—Acute perforations of the gall-bladder are not so infrequent as many people presume, and if not recognized and treated promptly, they almost always result fatally. Doctor Larson has presented this subject exceptionally well. His plea for adequate bacteriological studies at the time of operation cannot be supported too strongly, for the character of the bacterial infection undoubtedly influences the course of most of these cases. Our experience at Stanford Clinic is not unlike Doctor Larson's; but, in reviewing these cases, I note one complaint common to all—the sudden onset of sharp, severe pain in the right lower quadrant. It is reasonable to suppose that the exudate from the perforated gall-bladder would be kept away from the peritoneum of the anterior abdominal wall by the liver, transverse colon and omentum, but it would contact the peritoneum in the middle or lower abdominal quadrant, manifesting itself by severe pain in this area. All of our cases had cholelithiasis, obviously of long standing. Two of the gall-bladders were carcinomatous.

An accurate diagnosis of perforated gall-bladder is difficult, but I wish to call attention to the value of the Schilling differential blood count. This is done by differentiating the young polymorphonuclear cells with banded, unsegmented nuclei from the old polymorphonuclear cells with segmented nuclei. An increased number of young cells indicates a response on the part of the bone marrow to an urgent demand for more polymorphonuclears. This is always present in a severe inflammatory condition. It has been our invariable experience that any marked increase in the young polys indicates acute inflammation, and if the inflammation continues, the old polys may be destroyed faster than the new ones can be delivered to the circulating blood. When this occurs the total leukocyte count may actually come down, while the percentage of polys remains high and the percentage of young forms continues to increase. In our experience this has been a very valuable aid in deciding for or against operation.

⁂

Harlan Shoemaker, M. D. (1014 Wilshire Medical Building, Los Angeles).—Doctor Larson has presented twelve cases of rupture of the gall-bladder in which little, if any, defense has been made in the way of previous barriers of inflammatory exudates to protect the general abdominal cavity from a deluge of bile. These cases are difficult to diagnose, because the acute state of gall-bladder disease, which as a rule becomes chronic shortly, passes over with symptoms which are chiefly diagnosed as dyspepsia, gas, neuralgia, and even myocarditis.

As the disease progresses over many months or even years, gall-stones are developed. These gall-stones are without symptoms, or may be accompanied by a mild dyspepsia. Some 20 per cent can be diagnosed without x-ray. The accuracy of diagnosis is much greater when the dye is given intravenously than by mouth. About 20 per cent of the stones are nonfunctioning, and can only be diagnosed at operation. This is the type of gall-bladder that gives some pain in the back, and is frequently mistaken for anginal pain.

At the terminal stage, an acute, purulent, gangrenous inflammation from a stone in the gall-bladder, an acute pancreatitis or perforation from malignancy occurs, generally in the latter decades of life, and most frequently is preceded by the effects of symptoms over a long period of time. Gall-bladder colic that continues throughout the day is most frequently associated with an impacted stone. On the other hand, with the mild general symptoms that accompany a rupture of the gall-bladder in the earlier stages of gall-bladder disease, the average surgeon will advise the patient to wait until there is a sharper demarcation in his disease.

If this gall-bladder has ruptured, as Doctor Larson suggested, when the more advanced symptoms begin to appear, very little if any aid can be had by surgery or any other means at our disposal. Patients who are operated on within five days following an attack have generally recovered. Subsequent to that time, the disease is invariably fatal.

If the patients become seriously jaundiced, about 20 per cent will suffer from secondary hemorrhages. There is nothing that I know of that will ameliorate this condition except a blood transfusion.

In skilled hands, cholecystectomies should not have more than a one per cent mortality. Therefore, it is difficult to understand why the profession at large should not advise an exploratory procedure rather than to wait for a surgical impasse.

⁂

Stanley H. Mentzer, M. D. (450 Sutter Street, San Francisco).—Acute perforations of the gall-bladder, which occur as exacerbations of chronic cholecystic disease, characterized by a long history of biliary disturbance, rarely become diagnostic problems. But the sudden acute perforations which occur in a previously "silent" gall-bladder cause serious diagnostic errors. Equally misleading are those acute perforations which give little clinical evidence of their occurrence. Unfortunately, these are more common than are generally supposed. In the twelve cases recorded by Doctor Larson, two belong to the former group and one to the latter, with the result that a cholecystic lesion was preoperatively diagnosed in only two instances. I have previously reported that four of twenty-four perforations were not even operated upon, and six were not preoperatively considered perforations. More recently perforation was diagnosed in only three of fourteen instances. Doctor Larson's experience, and my own, seem to indicate that our conception of the clinical signs of gall-bladder perforation is erroneous. And indeed, ample evidence has accumulated to prove that acute cholecystitis may be present without the history, physical examination and laboratory aids being characteristic of acute abdominal disease.

To avoid the high mortality of 50 per cent reported by Doctor Larson and others, we must familiarize ourselves with the eccentricities of the clinical evidence in acute and perforative cholecystitis. Until that is accomplished, earlier operative exploration in every doubtful case is warranted.

⁂

Doctor Larson (closing).—I wish to thank the discussants for their excellent comments.

I will state again that this paper emphasizes the gall-bladder perforation that leads to generalized choleperitoneum; that the diagnosis is infrequent; that the surgical attack is too often not well planned, and that the mortality is much too high.

Doctor Chandler's suggestion that the Schilling blood test may be an important adjunct in establising a proper diagnosis should not be overlooked.

The discussions by Doctor Shoemaker and Doctor Mentzer should be carefully studied, since they both have had much experience with this condition.

HEART DISEASE COMPLICATING PREGNANCY*

By Clarence A. DePuy, M.D.
Oakland

Discussion *by James V. Campbell, M.D., Oakland; Bernard J. Hanley, M.D., Los Angeles; E. A. Royston, M.D., Los Angeles.*

THE matter of heart disease as a complication of pregnancy is always one to give the obstetrician cause for serious thought. Is the patient's life in grave danger; is it necessary to interrupt pregnancy, or is it possible to decide whether there are circumstances under which the expectant mother may, without great risk, be permitted to go on to term?

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* Read before the Obstetrics and Gynecology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

QUESTIONS WHICH ARISE

At one time or another these are questions which we should like to know how to answer. If we interrupt the pregnancy and sacrifice the child to which life might with safety have been granted, we find ourselves liable to be visited with serious censure; if through undue optimism, we permit pregnancy to continue, and in consequence the embryo's host is sacrificed, we incur even more serious censure, and a degree of humiliation as well.

What shall we do? Are there any rules? Is there anybody of clinical experience to guide us to a safe decision? Is cesarean section indicated?

Out of experiences of his own, buttressed by a large number of reported cases of others, the answer seems clear enough to permit of its general formulation. These things, in the end, are always personal. It is only when we are confronted with them in our own practice, instead of abstract problems, they become concrete, requiring decision that does not permit of much delay.

Several years ago, the writer observed three cases of heart disease complicating pregnancy which made a lasting impression. The following is a brief summary of the cases, the supporting conclusions, and the practice which the writer has accepted as a safe guide in practice.

REPORT OF CASES

Case 1.—The first case, a young woman six and one-half months pregnant, was seen at the hospital. Her condition was serious, as she had heart disease with broken compensation, complicating her pregnancy. She was under the care of a competent internist, but proceeded to get worse and died, undelivered. Her death was very tragic.

* * *

Case 2.—The second case was referred at this same time by a physician in a neighboring city, for an opinion as to whether she could go through a pregnancy without great risk to health and life. She gave a history of having had heart trouble for many years. Examination revealed that the heart was very large, and the murmurs were so pronounced that one hardly needed a stethoscope to hear them. She was pregnant about six weeks. Her compensation was so well established that she had no symptoms, such as dyspnea, cyanosis, edema, and fibrillation. I gave as my opinion that an attempt to carry through a pregnancy to term was fraught with great danger, as the added strain on her heart would probably break down her compensation. It was stated that if she was fortunate enough to get through her pregnancy, she might become a chronic invalid. This patient and her husband carefully considered the matter and decided to take the risk. The patient went through her pregnancy and labor without difficulty, and remained symptom-free afterward.

* * *

Case 3.—The third case, a patient thirty-four years of age, who had complained of heart trouble for many years, was seen when she was about three months pregnant. She had been under the care of a physician in a near-by city for ten years, and he had objected to her becoming pregnant. The physician died, and the patient, failing to take the proper precautions, became pregnant a few months later.

She complained of dyspnea and cyanosis on slight exertion. Examination revealed heart disease, which was rather poorly compensated, and she was pregnant three months. She was extremely anxious to have a child, and we decided to try to carry her through. Under careful observation and rest, she carried her pregnancy to term and delivered her baby without difficulty. A few weeks after her labor, her heart decompensated and she was confined to her bed for several weeks. She was never able to do much after this break in compensation, and died about a year and a half later.

COMMENT

The above cases will serve to illustrate some of the facts it is proposed to point out.

The first is that patients with well compensated hearts may carry through pregnancy without great risk. Second, that patients with heart trouble poorly compensated will probably not be able to carry a pregnancy to term. Third, patients with poorly compensated heart trouble who carry their pregnancy to term, and pass through labor without mishap, may succumb later, and the strain of pregnancy will greatly shorten their lives.

The facts for the physician to know when these patients present themselves with heart disease complicating pregnancy, are: which cases may continue without causing great damage to their health and life, and which cannot.

CLASSIFICATION OF THE NEW YORK HEART ASSOCIATION

In 1924, the New York Heart Association[1] made a functional classification of cardiac patients that serves well to determine the prognosis with pregnancy. Cardiac patients are divided into three classes as follows:

Class 1. Patients with heart disease who are able to undertake ordinary physical activity without discomfort, such as palpitation and dyspnea, and who perform the test exercise without unusual tachycardia or dyspnea.

Class 2a. Patients whose ordinary activity is slightly limited because of the appearance of dyspnea, palpitation or fatigue, and who show somewhat excessive tachycardia and dyspnea after the test exercise.

Class 2b. Patients whose activity is greatly limited because of the appearance of dyspnea or palpitation, and who show marked tachycardia and dyspnea after the test exercise, or who are unable to complete it.

Class 3. Patients whose activity is so limited as to make them unable to walk about without dyspnea or palpitation, and who are so evidently dyspneic after such slight efforts as getting into bed or walking across the room as to make any other exercise test unnecessary.

Pardee[2] says this method of rating the functional capacity of cardiac patients may be well applied to pregnant women, and the writer has found the same to be true in his observation of these cases.

Mackenzie[3] says that a perfectly sound heart may show a murmur, and "Nowhere has he been able to find a description which makes clear the difference between murmurs of serious significance and those which are innocent"; so in making a diagnosis of heart disease, the history and other signs and symptoms should be taken into consideration. Frequently, dyspnea on exertion, tachycardia and cyanosis, are the most prominent.

AFTER THE DIAGNOSIS, WHAT NEXT?

Having made the diagnosis of organic heart disease and pregnancy, it is then to be determined which cases can safely go through pregnancy.

This can be determined by the history of the case and physical findings, and classifying them according to the description previously mentioned. Those in Class 1 may go through pregnancy and labor without developing symptoms of a serious nature. Patients in Class 2a will probably go through pregnancy with a moderate amount of discomfort, such as dyspnea and tachycardia. Class 2b patients may *possibly* go through pregnancy, but their chances of a break in compensation are probable. *Class 3 patients cannot be carried through pregnancy,* and even the early interruption of pregnancy is fraught with danger.

Certain groups of heart trouble have always been thought to be the cause of serious symptoms, such as mitral stenosis and aortic disease; but Fitzgerald,[4] in a report of one hundred twenty-six cases, one hundred seven had mitral disease, and of these, sixty-one showed evidence of stenosis. There were twelve cases of aortic disease. No patient died during pregnancy or labor.

Management During Pregnancy.—At the Sinai Hospital in Baltimore, Maryland, cardiac disease was found to be the second most common cause for obstetrical deaths, and in no class of patients is prenatal care so important as in this class of patients. Schuman[5] says it is the acid test of her attending physician. Its principal object is to prevent heart failure, and in order to prevent this, patients are required to rest in bed at least two hours a day, and also avoid any exercise or excitement. On the first signs of any unusual symptoms, such as dyspnea, tachycardia, cyanosis, edema or cough, patients are put to bed and kept under observation. If in a reasonable period of time their symptoms do not subside, their pregnancy *must* be interrupted. If they reëstablish their compensation, they may be permitted up and around again with very limited activities. The aid of an internist, interested in heart disease, is almost a necessary adjunct in the care of these patients. In discussing this subject with a cardiologist recently, he made the statement that "every break in compensation brings the exitus closer."

Management During Labor.—Having successfully passed through pregnancy to term, the next problem is the management of labor. A few days before labor is due, the patient should be hospitalized and put at complete rest. Labor may be induced or allowed to begin spontaneously. When the pains are well established and the cervix has begun to dilate, the patient is given morphin and this is to be repeated as necessary in the first stage. When the cervix is completely dilated and the head is on the perineum, the patient may be given gas and ether by a competent anesthetist, and the delivery completed by forceps. During the third stage of labor, care should be taken to prevent collapse, as the release of the intra-abdominal pressure following the strain of labor is apt to cause serious symptoms. Pituitrin should be given, and a tight binder applied to abdomen. The patient should be allowed to rest in the delivery room for one to two hours before being taken to her room.

Cesarean Section.—Cesarean section is not indicated in this class of cases except when there are complications that would require this method of delivery, for other reasons than the heart lesions. Fitzgerald[4] reports deliveries of one hundred twenty-six patients, and only one had a cesarean section; this was in a multipara to permit of sterilization. Reis-Frankenthal[6] report one hundred two cardiac patients, twenty of whom were delivered by cesarean section. Of these, only eleven were done on account of cardiac pathology, and of these eleven cases, ten were sterilized as a part of the operative procedure. They say that an incidence of 10 per cent of cesarean sections is too high for cardiac disease. If sterilization is desirable, this procedure is best done after the pregnancy has been terminated. According to reports, the tendency at the Michel Reese Hospital has been away from cesarean section, as the ideal method of delivering the cardiac patient. The desire to sterilize the cardiac patient should not sway the obstetrician. They report a mortality of 1.8 per cent in labor, and 2.8 per cent in the delivered group which was followed.

Postpartum Care.—Following her delivery, the cardiac patient should be kept at rest and not allowed up until she is symptom free. She should not be allowed to nurse her baby, as this puts an extra strain upon her. She must take the required amount of rest and avoid overexertion in the care of her baby. At the first sign of a break in her compensation, she should be put to bed.

Reis-Frankenthal[6] report 15.71 per cent of seventy-one patients followed up after delivery had symptoms, or gave a history of cardiac embarrassment between the time of delivery and the follow-up. Fitzgerald, in his series of one hundred twenty-six cases, reports that one patient died six weeks after leaving the hospital.

SUMMARY AND CONCLUSIONS

Cardiac patients with pregnancy should be classified in order to determine their prognosis with pregnancy and labor.

Proper care and observation during pregnancy and labor are very important.

Cesarean section is not advised unless there are other indications requiring this method of delivery.

Rest and care after pregnancy are essential.

230 Grand Avenue.

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DISCUSSION

James V. Campbell, M. D. (350 Twenty-ninth Street, Oakland).—Doctor DePuy's paper has aptly brought out the salient points to be considered when a physician is confronted by a pregnant woman with heart disease. To me, the most important section of the paper is the practical guide for determining the severity of the cardiac lesion and the subsequent treatment thereof.

The great majority of patients with heart murmurs can be grouped in Class 1, even though the murmurs may seem to indicate extensive damage. Actually, most of these patients are well compensated. This calls to mind one young primiparous patient who had had rheumatic heart disease with a resultant mitral regurgitation and mitral stenosis, a slight tachycardia, but otherwise well compensated. The heart-sounds on the right side sounded almost as loud as on the left. She went through an uneventful pregnancy and normal delivery.

It is after getting into the second class that the judgment of the attending physician becomes increasingly more taxed, and the necessity of having a compepetent cardiac specialist more urgent.

The general care of the mother, both before and after delivery, has been very adequately covered, but I will have to take exception to the essayist as to the type of delivery. With proper preparation and in competent hands, a cesarean section would seem to be less strain on a bad heart of a primipara than a normal delivery. Of course, if the patient has had previous deliveries, she could be allowed a test of labor and probably would have no undue trouble. She should be advised to definitely limit the number of pregnancies.

Individuals falling into Class 2B and Class 3 are, to all intents and purposes, to be treated similarly. If an early diagnosis of pregnancy is made, the patient should be therapeutically aborted; but if this is inadvisable because she is too far advanced in her pregnancy, a hysterotomy with resection of the tubes is indicated. Whether she should be allowed to go to term would depend entirely upon her reaction to adequate conservative treatment. In most cases the added strain of resecting the tubes following cesarean section is not sufficient to warrant requiring the patient to submit to a later operation. An illustrative case of Class 2B is that of a 35-year-old woman, first seen when five months pregnant. At twelve years of age she acquired typhoid fever, resulting in serious cardiac damage. She had had two miscarriages at two and five months, and two normal deliveries. Against the advice of her former physician, she yielded to her second husband's desire to have a child of his own. Toward the middle of her fifth month, she developed what was at first diagnosed as influenza and later diagnosed as left pyelitis. After cystoscopy showed both kidneys to be normal, a blood culture taken revealed a streptococcus vividous septicemia. She was given the usual supportive treatment, transfusions and sorocin, to no avail. About one month after the onset, she miscarried a two-pound fetus and a few days later died.

* * *

Bernard J. Hanley, M. D. (1930 Wilshire Boulevard, Los Angeles).—We have used the classification of the American Heart Association for the past several years in the Los Angeles Maternity Service. The diagnosis and classifications were made in conjunction with our attending cardiologist. Our feeling has been that the results are better and the patients can be told what their outlook is, both for this and for future pregnancies.

In a recent review of our cases we found a surprisingly low percentage with organic heart disease. This is perhaps due to the small amount of rheumatic fever seen in Southern California.

I would like to add that a patient in labor with organic heart disease should have analgesia pushed to the limit of safety.

* * *

E. A. Royston, M. D. (8627 South Vermont Avenue, Los Angeles).—When the woman suffering from heart disease finds her problems complicated by expectant motherhood, and tells her story to her attending physician, she immediately places on him a responsibility much graver than the ordinary. He must detail to her the dangers which lie ahead, not only during the pregnancy and delivery, but also during the ten to twenty years when the child will need the care and guidance of its mother.

The greatest desire of the average woman, whether she be the savage in the jungle or the queen upon the throne, is that she be allowed, by a kindly providence, to have at least one child. This natural instinct, however, must not be allowed to overinfluence the scientific judgment of her attending physician.

The matter of carrying a pregnancy to a successful termination is very much a personal one, not only to the expectant mother, but also to the attending physician. In these cases, where there is serious cardiac complication, there must be complete coöperation between the patient and the physician, or the work should not be undertaken.

Doctor De Puy has written a careful and beautiful paper, and has given us much food for thought. His Case No. 3 was truly tragic and pathetic; but after all, had not the woman reached her life's goal and ambition? There is still the human element that is hard to overcome. One of the greatest joys of my practice was to guide a serious cardiac case safely through pregnancy and delivery, and yet, after five years, to be able to report, "Mother and son still both doing well." The author's statistics and his method outlined for the care of the expectant mother complicated by cardiac disease are worthy of much study and attention.

THE LURE OF MEDICAL HISTORY[†]

MR. JOHN HUNTER ON GENERATION[*][‡]

By Arthur William Meyer, M.D.
Stanford University

IV[**]

HUNTER'S CLASSIFICATION OF MONSTERS

In classifying monsters, Hunter further said: "Of monsters there are two principal classes, viz., Duplicity of Parts and Deficiency of Parts; and there is a third class, viz., Bad Formation. The first is, by much, the most frequent." (*Ibid.*, p. 248.)

"I should imagine that monsters were formed monsters at the very first formation for this reason, that all supernumerary parts are joined to their similar parts; for example, a head to a head, &c.

"But monsters, in some cases, may be said to be accidental, as the horn growing out of the forehead of the ox or cow.

"Is not the forked end of the fang of a tooth a species of monstrosity? and does not the manner of its formation show the nature of monsters, viz., two fangs being formed from a preternatural process taking place?

"We often find in the human body an appendix or process passing out from the small gut; and I

[†] A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany department, and its page number will be found on the front cover.

[*] Because John Hunter occupies so large a place in the development of surgery, it is commonly but erroneously assumed that he had the title of Doctor of Medicine.

[‡] From the department of anatomy, Stanford University Medical School, Stanford University.

[**] Part I of this paper was printed in the August issue of California and Western Medicine, page 145; Part II, in the September issue, page 222; Part III, in the October issue, page 283. The present paper concludes the series.

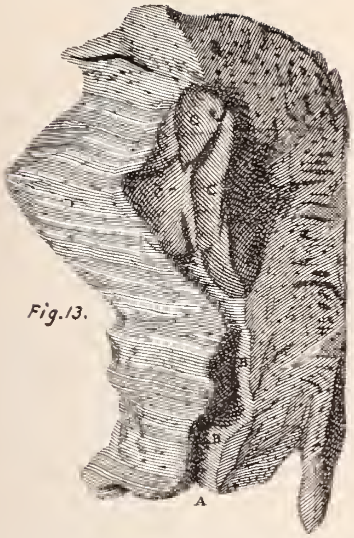

Fig. 13.

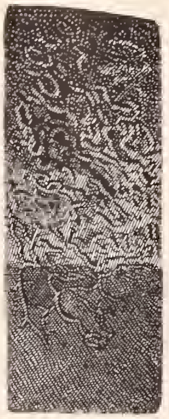

Fig. 14

Figs. 13 and 14.—"This plate represents a section of the human uterus in the first month after impregnation. The uterus itself is a little enlarged in size, and thickened in its substance; its cavity, everywhere lined with a coagulum of blood, having a smooth internal surface, but adhering firmly to the uterus.

"The arteries are injected to show that it is uncommonly vascular, and vessels are found to be injected in different parts of the coagulum.

"The object of this plate is to show the readiness with which vessels are formed in coagulated blood, when attached to a living surface, and its vascularity being to answer useful purposes in the machine, of which this is a remarkable instance, as it is to form the outer membrane of the foetus, or the connecting medium betwcen it and the uterus.

Fig. 13.—"A longitudinal section of the uterus, in which the cavity is exposed.

"*A*, the os tincae projecting into the vagina, of which there is a small portion, to show the length to which the os tincae projects. *BB*, the cervix uteri. *CCC*, the coagulated blood, smooth upon its internal surface, although extremely irregular. *DD*, the cut surface of the substance of the uterus, which has so intimate a connexion with the coagulum that the one appears to be continued into the other. The laminated appearance is produced by the section of enlarged veins in a collapsed state, which are extremely numerous.

Fig. 14 "is a thin slice of the substance of the uterus and the coagulum adhering to it, dried, and viewed in a microscope, to show the vascularity of the uterus, whose vessels are distinctly seen, continued into the coagulum, and passing about halfway through its substance." (Palmer, p. 10.)

believe always from the ileum. In the year 1763, I found one of these in a body situated about one foot and a half from the cæcum. In the same winter I found another nearly three feet from the cæcum." (*Ibid., i,* p. 251.) Since Hunter did not know the significance of Meckel's diverticulum, it is not surprising that he misinterpreted it.

A clearer expression of his idea of environment as a factor in the production of monsters is contained in the following quotations: "A part having the power within itself of elongation, will have the power of varying in that elongation according to circumstances; therefore a head not yet formed, but only having a disposition to form, may by some accident be disposed to be formed into two heads, and the same with every part of the body." (*Ibid., i,* p. 244.) . . . "Lizards therefore have two or more chances or periods in which they can or may form a monstrous tail; for they have the first formation common to all animals, which should be called the first growth; and they have the accidental causes of a new or second growth, all which are due exactly to the same principle, viz., a new formation of a part. This, however, arises from an obstruction to the formation of one tail only; for, if the part which is to form the tail be slit but a very little into two points, these will form each a tail; so that an obstruction to the natural disposition becomes the cause of another taking place. I have seen this disposition so strong in the tail of the lizard, that a wound on the side of the tail has given the disposition for a young supernumerary tail to grow out of the wound." (*Ibid., i,* p. 245.)

In view of the notable contributions of Bartelmez on menstrual changes, it is of great interest that Hunter stated that in a young woman who died at St. George's Hospital during menstruation, the cavity of the injected uterus contained extravasated material and that ". . . on the inner surface there were dots of injection, as if swelled out at the end or opening of a vessel, just ready to drop off." (Essays and Observations, *i,* p. 193.)

ON THE STRUCTURE OF THE PLACENTA AND IMPLANTATION

In regard to the structure of the placenta and implantation (see Figure 13), Hunter wrote:

"The placenta seems to be principally composed of the ramifications of the vessels of the embryo, and may have been originally formed in consequence of those next to the uterus laying hold by a species of animal attraction of the coagulable lymph which lines the uterus. It might take place in a manner resembling what happens when the root of a plant spreads on the surface of moist bodies, with this difference, that in the present instance the vessels form the substance through which they ramify, as in the case of granulations.

"At the time, or perhaps before, the female seed enters the uterus, coagulable lymph, from the blood of the mother, is thrown out everywhere on its inner surface, either from the stimulus of impregnation taking place in the ovarium, or in consequence of the seed being expelled from it. But I think the first the most probable supposition; for we find in extra-uterine cases that the decidua is formed in the uterus, although the ovum never enters it, which is a proof that it is produced by the stimulus of impregnation in the ovarium, and that it is prior to the entrance of the ovum into the uterus. When it has entered the uterus it attaches itself to that coagulable lymph, by which, being covered and immediately surrounded,† there is formed a soft pulpy membrance, the decidua, which I believe is peculiar to the human species and to monkeys, I never having found it in any other animal. That part which covers the seed or fœtus, where it is not immediately attached to the uterus, and likewise forms a membrane, was discovered by Dr. Hunter, and is by him called decidua reflexa.* The whole of this coagulable lymph continues to be a living

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"† This is somewhat similar to another operation in the animal œconomy. If an extraneous living part is introduced into any cavity, it will be immediately inclosed with coagulable lymph. Thus we find worms inclosed, and hydatids, that have been detached, afterwards inclosed; but in those cases this is a consequence of the pressure of the extraneous body, whereas in the uterus it is preparatory."—J. H.

"* The placenta is certainly a fœtal part, and is formed on the inside of the spongy chorion, or decidua. How far the decidua reflexa is a uterine part I do not yet know; if it is, then the ovum must be placed in a doubling of the coagulum, which forms the decidua; but if the ovum is attached to the inside of the decidua, then the decidua reflexa is belonging to the fœtus."—J. H.

part for the time; the vessels of the uterus ramify upon it; and where the vessels of the fœtus form the placenta there the vessels of the uterus, after passing through the decidua, open into the cellular substance of the placenta, as before described. As this membrane lines the uterus and covers the seed, it is stretched out, and becomes thinner and thinner, as the uterus is distended by the fœtus growing larger, especially that part of it, called decidua reflexa, which covers the foetus; as there it cannot possibly acquire any new matter, except we could suppose that the fœtus assisted in the formation of it. This membrane is most distinct where it covers the chorion; for where it covers the placenta it is blended with coagula in the great veins that pass obliquely through it, more especially all round the edge, where innumerable large veins come out; but the chorion and decidua can be easily distinguished from one another, the decidua being less elastic." (Animal Œconomy, pp. 97-98.)

"The arteries which are not immediately employed in conveying nourishment to the uterus go on towards the placenta, and, proceeding obliquely between it and the uterus, pass through the decidua without ramifying; just before they enter the placenta, after making two or three close spiral turns upon themselves, they open at once into its spongy substance without any diminution of size, and without passing beyond the surface, as above described. The intention of these spiral turns would appear to be that of diminishing the force of the circulation in the vessels as they approach the spongy substance of the placenta, and is a mechanism calculated to lessen the quick motion of the blood in a part where a quick motion was not required. These curling arteries at this termination are in general about half the size of a crow's quill, and sometimes larger.

"The veins of the uterus appropriated to bring back the blood from the placenta commence from this spongy substance by such wide beginnings as are more than equal to the size of the veins themselves. These veins pass obliquely through the decidua to the uterus, enter its substance obliquely, and immediately communicate with the proper veins of the uterus. The area of these veins bears no proportion to their circumference, the veins being very much flattened.

"This structure of parts points out at once the nature of the blood's motion in the placenta; but as this is a fact but lately ascertained, a just idea may perhaps be conveyed by saying that it is similar, as far as we yet know, to the blood's motion through the cavernous substance of the penis.

"The blood detached from the common circulation of the mother, moves through the placenta of the fœtus; and is then returned back into the course of the circulation of the mother, to pass on to the heart.

"This structure of the placenta, and its communication with the uterus, leads us a step further in our knowledge of the connexion between the mother and the fœtus. The blood of the mother must pass freely into the substance of the placenta, and the placenta most probably will be constantly filled; the turgidity of which will assist to squeeze the blood into the mouths of the veins of the uterus, that it may again pass into the common circulation of the mother; and as the interstices of the placenta are of much greater extent than the arteries which convey the blood, the motion of the blood in that part must be so much diminished as almost to approach to stagnation. So far and no further does the mother appear to be concerned in this connexion.

"The fœtus has a communication with the placenta of another kind. The arteries from the fœtus pass out to a considerable length, under the name of the umbilical arteries, and when they arrive at the placenta ramify upon its surface, sending into its substance branches which pass through it, and divide into smaller and smaller, till at last they terminate in veins; these, uniting, become larger and larger, and end in one, which at last communicates with the proper circulation of the fœtus.

"This course of vessels, and the blood's motion in them, is similar to the course of the vessels and the motion of the blood in other parts of the body." (Animal Œconomy, pp. 99-100.)

TESTICULAR DESCENT

Hunter's study of testicular descent and of the gubernaculum are too well known to require much comment, though he thought that of the testicles ". . . the lowest is the most vigorous"; and he was correct in saying that "When one or both testicles remain through life in the belly, I believe that they are exceedingly imperfect, and probably incapable of performing their natural functions, and that this imperfection prevents the disposition for descent from taking place. That they are more defective than even those which are late in passing to the scrotum, is to be inferred from what is very evident in quadrupeds, the testicle that has reached the scrotum being in them considerably larger than the one which remains in the abdomen. It is probable that this peculiarity is a step towards the hermaphrodite, the testicle being seldom well formed. I have only seen one case in the human subject where both testicles continued in the abdomen; this proved an exception to the above observation, since we are led to conclude that they were perfectly formed, as the persons had all the powers and passions of a man." (Animal Œconomy, p. 56.) Hunter no doubt was right in saying that this man had all the "passions," but he probably did not have all the "powers" of a man; but Owen was badly mistaken when, in comment on these words of Hunter, he wrote: "It seems remarkable, that with this experience Mr. Hunter should have formed, from inconclusive analogy, and promulgated an opinion tending to occasion so much unhappiness as that which attributes exceeding imperfection, and probable incapacity of performing their natural functions, to testes which in the human subject are retained within the abdomen. That there is nothing in such a situation which necessarily tends to impair their efficiency, is evident, from the number of animals in which they

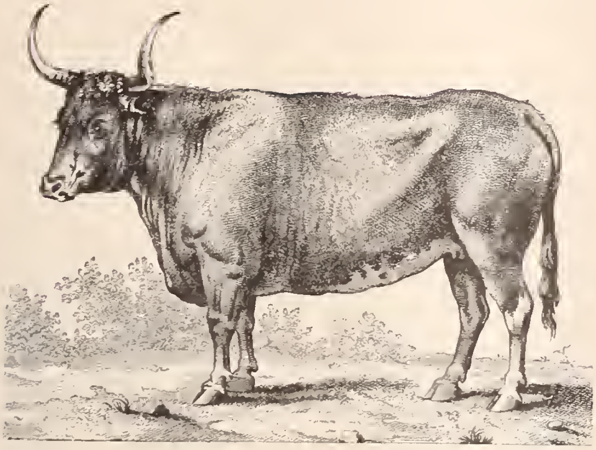

Fig. 15

Fig. 15.—A reproduction of an illustration of Mr. Wright's free-martin, from Hunter's paper on that subject, taken from a drawing of the living animal by Mr. Gilpin. "It shows the external form of that animal, which is neither like the bull nor cow; but resembling the ox or spayed heifer." (Palmer, p. 18.)

constantly form part of the abdominal viscera. And in those in which the testes naturally pass into a scrotum, their continuance in the abdomen, according to our author's own observation, is accompanied only with a difference of size or shape; now we may readily suppose that this may influence the quantity, but not necessarily the quality of the secretion." (*Ibid.*) Unfortunately for Sir Richard, it has been known for some years that Hunter was right, for although individuals with undescended testes have potentia coeundi, they do not possess potentia generandi.

It is not generally known that Hunter's attention was called to the free-martin by his loyal pupil and faithful friend, Edward Jenner. (See Figure 15.) In a letter to the Reverend Doctor Worthington, written on April 5, 1810, Jenner said: ". . . Pray do not part with your free-martin; it will be a beautiful animal, and docile and useful in your fields as an ox. I have dissected many; but why this mingling of the sexes should arise under such circumstances, eludes all my guesses. Some of the tricks going forward among the inhabitants of the uterus I have long since pretty well made out; but this is too much for me. I was the first who made the fact known (some thirty years ago) to Mr. Hunter. He soon went to work upon the subject and the result was an excellent paper in the Philosophical Transactions. It was republished in his work on Animal Œconomy."

That Hunter was aware of the fact that the free-martin had long been known is indicated by the following footnote from his article: "The Romans called the bull, taurus; they, however, talked of taurae in the feminine gender. And Stephen observes, that it was thought the Romans meant by taurae, barren cows, and called them by this name because they did not conceive. He also quotes a passage from Columella, lib. vi. cap. 22, 'and like the taurae, which occupy the place of fertile cows, should be rejected, or sent away.' He likewise quotes Varro, De Re Rustica, lib. ii. cap. 5, 'The cow which is barren is called taura.' From which we may reasonably conjecture that the Romans had not the idea of the circumstances of their production" (Animal Œconomy, p. 76); but neither did Hunter have this idea. That was first conceived, and the underlying anatomy revealed, by Keller and Tandler in 1916 in Europe, and shortly thereafter also by Lillie in this country. What Hunter meant was that the Romans were not aware of the anatomical states which occur in the reproductive organs of free-martins. It was this that he ascertained by careful intravitam and postmortem studies. Hunter realized that "Hermaphrodites are to be met with in sheep; but, from the account given of them, I should suppose that they are not free-martins. . . . Of all the specimens which I have dissected, I shall only give the descriptions of the three which point out most distinctly the complete free-martin with the gradations towards the male and female." (*Ibid.*, p. 77.) ". . . I shall retain the term, free-martin, to distinguish the hermaphrodite produced in this way from those which resemble the hermaphrodite of other animals; for I know that in black cattle such a deviation may be produced without the circumstance of twins: and even where there are twins, the one male the other a female, they may both have the organs of generation perfectly formed. But when I speak of those which are not twins, I shall call them hermaphrodites: the only circumstance worth our notice being a singularity in the mode of production of the free-martin, and its being, as far as I yet know, peculiar to black cattle." (*Ibid.*, p. 75.)

Although John Hunter's many years of study of the developing "chick of the goose" did not contribute much in words besides a sketch, they did give us many fine crayon drawings which far surpass those of earlier days. Since they were left almost wholly without legends, it is evident that this, like the text for the gravid uterus by William, was an unfinished task, but it may be said in extenuation that Hunter was stricken suddenly by death. He was such a prodigious worker and since he maintained an interest in the subject for almost forty years, it is reasonable to conclude that he would have finished the task had more time been granted him. Even so, John Hunter's claim to a place in the history of embryology far outweighs that of his brother. John deserves remembrance especially because he was the first to observe that the heart beats before the blood is red and mentioned the formation of blood islands outside of the embryo. He also was of the opinion that the allantois acted as a lung, observed oögenesis in the goose and hen and searched for the mammalian ovum. He was the first to determine the effect of the removal of one ovary on litter size. He further observed that the implanted mammalian ovum has a local effect upon uterine growth and rediscovered the independence of the fetal and maternal circulations. He made observations on comparative placentation, described the uteroplacental circulation more accurately than it had been described before, and was the first to observe that desquamation of the endometrium is accompanied by the rupture of arterioles. He described the descent of the testis and rightly concluded that the seminal vesicles are not primarily reservoirs for spermatozoa. He also distinguished carefully between the decidua and the placenta, recognized the rôle of both heredity and environment in the production of monsters and formulated a recapitulation idea. Although he said there was some evidence in favor of preformation, metamorphosis and epigenesis, his own observations, as well as his own words, were mainly in support of the latter.

He kept a flock of geese for fifteen years, hatching two broods per goose per summer, had many dissections made of the embryos and fetuses, and employed competent artists during a period of almost forty years for the production of a larger and better series of drawings on development than any existing before. He maintained his interest up to the time of his death and deserves special remembrance not only for his spirit, but also for his accomplishments. It is true that John Hunter lacked faith in the microscope and believed that egg-white, blood and chyle were alive and that the absorbent vessels possess consciousness and are present in the unhatched egg. He apparently failed to comment on the amazing discovery of spermatozoa made fifty-one years before his birth, and was unacquainted with Wolff's work. But he was an assiduous worker, an outstanding experimenter, and gave advice of foremost importance when he said, "Why think? Why not try the experiment?" He maintained his curiosity through his entire lifetime, and it was very characteristic of him to ask in a letter written to his faithful pupil Jenner, "Where the devil do eels go in winter?" Surely to such a man much may be forgiven.

THE CONTROVERSY BETWEEN JOHN AND WILLIAM HUNTER

It is difficult to contemplate the splendid royal folio on the gravid uterus by William without sympathy for John. It does not seem possible that the latter could have said what he did, and taken the steps he did more than a generation afterward if he himself had not made the discovery he claimed, regarding the uteroplacental circulation, and surely nothing could be more evasive than the rejoinder of William. John was very specific and said that William received his conclusion with raillery at the time. In referring to this regrettable controversy, in a footnote in CALIFORNIA AND WESTERN MEDICINE of June, 1932, I expressed my sympathy for John somewhat ambiguously, so that some readers inferred that I shared John's mistaken attitude toward the classics. That is not the case, and it is interesting that Butler (1910) thought that "Doubtless . . . linguistic studies would have served to correct in him what was perhaps a natural defect. . . ."

It is quite possible that any friction that may have previously existed between these famous Scotchmen was intensified by the prior election—though by only two months—of John to the Royal Society in 1767. This happened at a time when, as Ottley said, John had made no independent contribution to that Society, while William, who was ten years older and had been his brother's preceptor, had made one. He had also been in London seven years longer, had been elected to the Corporation of Surgeons in 1747, and enjoyed a well-earned reputation. William also had received his degree of Doctor of Medicine in 1750, and had been made physician-extraordinary to the Queen in 1764. Under such circumstances the previous election of John, who never had obtained a degree of any kind, might well rankle. A further cause of rivalry, if not of irritation, may have been William's request of 1765, to the prime minister, for a grant of ground in London upon which to establish ". . . a museum . . . for the improvement of anatomy, surgery, and physics." Although John could not have collected many specimens by this time, it is known that he had similar aims and aspirations, and that he also had begun the collection of specimens for a museum.

Another source of irritation may have been John's decision to marry. Since he was not married until his forty-third year, the opposition of his bachelor brother, however justly grounded, probably did not promote better relations between them, especially since there was no just ground for thinking that so capable a man as John could not support a family, or that so arduous a worker as he would relax his efforts unduly thereafter. Had John been less competent and industrious, or had he been a mere youth, there might have been more justification for the opposition of William, and had a Damon and Pythias relation existed between them, one could excuse William for regretting the separation that marriage implied. One cannot help surmising that William must have felt compunctions regarding the matter as the career of John and his domestic life unfolded, and as Mrs. Hunter emerged as an unusually accomplished woman, immortalized in both song and verse. How very kind Fate was to her and to John in view of his self-inoculation with the venereal diseases, only present-day medicine knows.

IN CONCLUSION

Since what is known of his work abundantly assures John's survival among the immortals, it is fortunate that he could not divine the use made of his voluminous notes and their ultimate strange fate at the hands of his knighted brother-in-law, Sir Everard Home. What a happy contrast to him was William Clift, who came to Hunter as a mere lad, only twenty months before Hunter's death, but who nevertheless guarded his notes and collection with singular fidelity and zeal! Surely, his devotion also speaks eloquently for the character of John, to whom the title of Doctor of Medicine, no more than any other, could have brought no additional honor. Untutored, unlettered, unpolished and untitled, was simple Mr. John Hunter, but great and immortal nevertheless.

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CLINICAL NOTES AND CASE REPORTS

IMPROVEMENT OF THE BELL STETHOSCOPE

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MANY new instruments are described and urged upon the general practitioner as well as the specialist. Some of these are so complicated that special training in their use is necessary for their replacing of present available equipment. A few of these instruments are made differently, so entire replacement will be needful, affording remunerative reward to the inventor and manufacturer. However, outside of clothing and personal equipment, with special reference to broken-in shoes, spectacles and false teeth, there is probably nothing so treasured and well liked as one's stethoscope. This is a fact, doubtless, most appreciated by the cardiologist, chest specialist, and obstetrician. Sir Wilfred Grenfeld has carried one stethoscope for over a score of years. Therefore, we suggest a modification instead of a replacement of your instrument.

Muscles vibrate at a slow rate, and by means of sympathetic resonance a musical tone is elicited from certain tested muscles. Piper, using the string galvanometer, found the electrical alternations corresponding to the voluntary muscular contraction of the flexor muscles of the fingers to be fifty per second, the muscles of the forearm vibrating at about the same rate. Ordinary city electrical current alternates at the rate of fifty to sixty times per second, which is quite noticeable in electrical devices such as heaters, toasters, etc., which act as resonators. These muscle sounds are transmitted from the fingers to the stethoscope, unless a form of insulation is used.

Added to the above vibrations is the tremor which befalls the attendant who personally watches his patient through long continuous hours. Therefore, a stethoscope to be most efficient must (*a*) be comfortable to the doctor, (*b*) be comfortable to the patient, and (*c*) transmit maximum sound with minimum static.

The comfort of the doctor concerns itself with the binaural end of the stethoscope, the tips of which should be of the right size and at the proper angle to correspond with the external canal of the individual using them. And they are more comfortable if made of a poor heat conductor. The tips must be applied to the ears with sufficient tension to keep out room noises, little tension being most comfortable. The larger the caliber of the hole in the metal, and the heavier the rubber tubing, the more tense has to be the spring to hold the tips applied to the ears.

The comfort of the patient is best served by a poor heat conductor at the point of contact of the chest piece with the patient.

The transmission of the sound, although considered last, is not the least important. The rubber tubing should be stiff enough to resist too easy bending, which in itself introduces noise as well

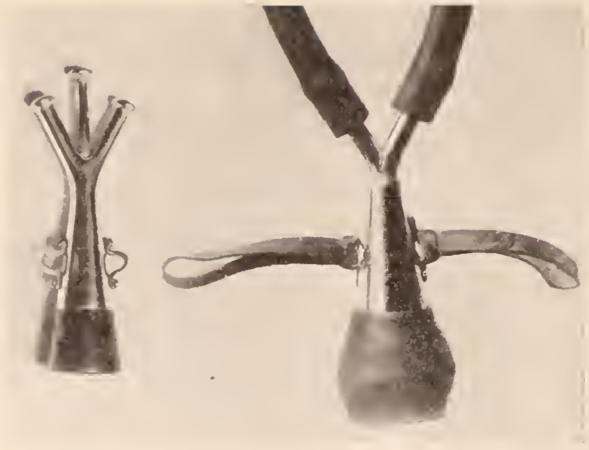

Fig. 1 Fig. 2

Fig. 1 shows brackets screwed on chest piece.

Fig. 2 shows brackets soldered on chest piece with rubber bands and nipple attached.

as disturbing the column of desirable sound. It should not be so stiff that manipulation of the chest piece is difficult. The bell, if used alone, should be of hard rubber; or if used with a nipple over the end, can be either hard rubber or aluminum. One needs only to be examined once or twice in a cool room with an aluminum bell chest piece to realize that there is not a little discomfort attached thereto.

No claim for the originality of the cut rubber nipple is here made. This device costs only about five cents, and being made of soft material, enables a contact to be made with very little pressure over the ordinary surfaces, as well as irregular surfaces such as the ribs. These nipples will wear for about three to four months.

Having discussed the majority of points prerequisite for a good stethoscope, there remains one that has been somewhat neglected; and that is the inspiration for the additional work on the stethoscope by the author. This relates to the method of insulating the desirable sound from the undesirable attendant's static. Doctor DeLee, in his text of obstetrics, states: "During auscultation with the usual stethoscope, nothing may touch the instrument save the skin of the patient and the ear of the examiner. Pressure with the fingers causes a faint hum which often completely covers the sounds. This may be obviated by holding the bell in place by means of rubber bands."

There remained one thing to be perfected, however, and that was the way these bands were to be applied. Bands were slipped through the crotch of the chest piece, fastening them to the two limbs or the thumb rest between the two limbs. This was not entirely satisfactory, because the center of gravity was below the point of attachment of the rubber bands and the stethoscope tended to sway. Hence, the chest piece was fastened between two knots tied in the rubber. This lowered the center of gravity, but it did not prevent slipping, the next factor to be overcome.

Two brackets were then attached to the chest piece, as illustrated. These can be either soldered or screwed onto the stethoscope. Although the center of gravity is a little below the point of attachment shown in the picture, room must be available below this point so that a slight downward as well as lateral traction can be made. These brackets are made from brass strips 5/32- to 6/32-inch wide, and 1/16-inch or less thick. They are bent either around a square or round piece of metal, so that the opening, when the bracket is fastened in place, is 3/16-inch in both directions. This gives a lumen a little less than 1/4-inch in diameter, which causes a 1/4-inch band to remain attached in place. The 1/4-inch rubber band seems to be the most desirable, as it is not big enough to transmit the vibrations and yet is not so small that it cuts into the fingers maintaining the tension. A bracket on either side of the chest piece permits the traction to be distributed to both the hands, and thus does not tire any one hand. Hence, there is not the necessity for shifting the grasp on the stethoscope, as is done, even though it may be subconsciously, when one hand is used on the ordinary stethoscope. At the time the traction is made upon the hands, the tubes of the stethoscope are made almost straight by the countertraction produced by the binaurals. In my own experience I find that the stethoscope is improved in efficiency from 10 to 25 per cent when the above conditions exist. It gives one much satisfaction when unsuccessful endeavors are made with the ordinary instrument in your own hands, or your colleague's, to use this improved stethoscope and hear the thing you or they were unable previously to discern.

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CARBONIC ACID GAS IN THE TREATMENT OF PNEUMONIA

By Lewis Gunther, M.D.
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FIVE major developments in the physiology of respiration have focused attention on the possibilities of carbonic acid gas in the treatment and prevention of pneumonia.

1. Henderson and Haggard, in 1922, observed that a mixture of 5 per cent carbon dioxid and 95 per cent oxygen could be successfully used for the relief of asphyxiation in carbon monoxid (CO) poisoning, and that the incidence of its most common sequelae, namely, pneumonia, was greatly decreased.

2. Cruickshank showed that neonatal pneumonia developed in atelectatic areas in the lungs. Henderson's proposal (1922) that the lungs of newborn children should be fully dilated by the use of carbon dioxid gas resulted in a decrease in the incidence of neonatal pneumonia in those maternity hospitals where the procedure was followed.

3. Postoperative pneumonia has been associated with atelectasis of lobes or lobules, or appears after massive collapse of the lungs. By the use of inhalations of carbonic acid gas these complications which lead to postoperative pneumonia can be eliminated.

4. Corryllos (1928 and 1929) showed the very important relationship of atelectasis and massive collapse to pneumonia, and introduced a newer conception of pneumonia, namely, atelectasis of the lung, lobe or lobule, and secondarily, the growth of bacteria in the occluded lung, lobe or lobule.

5. Henderson, Corryllos, and coworkers, in 1930 reported a series of artificially induced pneumonococcic pneumonias in dogs, following atelectasis of a lobe. These were successfully treated by the inhalation of an atmosphere containing 5 per cent carbon dioxid.

Since 1930 the writer has used carbon dioxid gas exclusively in the treatment of pneumonia. One hundred per cent carbon dioxid gas was administered by the drip method (no mask being used), through a rubber tubing of small caliber held about one inch above the nose or mouth, the gas flowing at the rate of about four liters per minute. (In the absence of a flow meter, a steady, soft stream was used, hitting the hand without force.) A stiff linen towel folded lengthwise was wrapped around the head from the chin to the vertex, thus forming a shallow cup, with the face as the base. The gas was administered until a hyperpnea developed, which was obviously out of the patient's control. The hyperpnea was continued under the gas for about a minute, and the flow then stopped; but the towel was not removed from the face. It was noticed that the hyperpnea continued for a variable length of time after the gas was discontinued. After a three- to five-minute rest, the gas was administered a second time and a similar hyperpnea induced. This procedure was repeated every three to four hours, until the temperature became normal.

The first few breaths of gas caused the patient to cough. After the administration of the gas was completed, a severe paroxysm of coughing usually set in, and the patient brought up surprisingly large quantities of yellowish sputum. The effort was extremely fatiguing, and the patient often fell into a sleep of exhaustion. However, he awakened later with a feeling of well-being, and refreshed all out of proportion to the degree of illness which had been previously evaluated to be present. The recipient of the gas often involuntarily stated that he felt better from the time the first inhalation was given.

Within twenty-four to thirty-six hours there seemed to be a marked decrease in the toxicity of the illness, and by the time the temperature became normal again—usually on the third day—the patient looked well enough to get out of bed. In fact, he had a feeling of well-being which was tremendously out of proportion to the physical signs of the disease in the chest. The process in the chest showed signs for several days after defervescence had become completed.

The signs of resolution in the lobar pneumonias began within four to seven days after the first administration of the gas, and in three to five days in the bronchopneumonias.

At this point, mention must be made of a small number of patients whose illness was ushered in abruptly with severe prostration, high fever, and marked cyanosis. To all external appearances these patients were suffering from pneumonia, but the physical signs were only those of dullness to flatness, and suppression of the breath sounds with or without suppression of vocal sounds at one base. These patients were clinically well within twenty-four hours after carbon dioxid gas inhalations were begun. They undoubtedly represent the pure atelectatic stage, which Coryllos pointed out precedes and ushers in true pneumonia.

Complications in the form of diplopia in one patient and the mask facies of encephalitis developed in two patients. In both instances this occurred on the third day after three hourly administrations of the gas in adults of small proportions and light weight. These complications disappeared after several days, without any permanent sequelae.

The use of the gas was attended with great difficulty in the aged, and when evidence of disease of the ventricular muscles was present. In such instances a severe dyspnea was induced and the beneficial aerating influence of the hyperpnea was not obtained. However, two successful instances in this series occurred in ages over eighty.

The use of carbon dioxid was successful in both types of pneumonia, as described. In the four-year period covering these observations, in approximately one hundred instances (about one-fourth of these consisted of personal communications) there was one death and failure in three instances of the defervescence to occur, as anticipated.

It must be emphasized that these bedside observations were recorded on patients in whom the clinical or roentgen-ray diagnosis was made and the treatment begun, in most instances within twenty-four hours or less after the first chill.

1930 Wilshire Boulevard.

The Tragedy of Man.—The tragedy of man is that he has developed an intelligence eager to uncover mysteries, but not strong enough to penetrate them. With minds but slightly volved beyond those of our animal relations, we are tortured with precocious desires to pose questions which we are sometimes capable of asking, but rarely are able to answer. We have learned to dream of conquests of the forces about us; we investigate matter and the energy that moves it, the order that controls the worlds and the sun and the stars; we train our minds inward upon themselves, and discover emotions, ethical desires, and moral impulses—love, justice, pity—that have no obvious relation to mere animal existence. The more we discover, the greater is our hopelessness of knowing origins and purposes. The more our ingenuity reveals the orderliness of the nature about us and within us, the greater grows our awe and wonder at the majestic harmony which we can perceive more clearly with each new achievement of art or of science, but which —in ultimate causes or in goal—eludes us. To feel this awe and to wish to fit into the harmony of natural things, with a vision of the whole, is apparently a definite phenomenon of human psychology.—Hans Zinsser in *Rats, Lice and History.*

There is an idea abroad among moral people that they should make their neighbors good. One person I have to make good: myself. But my duty to my neighbor is much more nearly expressed by saying that I have to make him happy if I may.—Robert Louis Stevenson.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

INSTITUTIONS FOR MORPHIN AND OTHER ADDICTION-FORMING DRUGS

William Duffield, M. D. (427 West Fifth Street, Los Angeles).—In the space allotted for articles in "Bedside Medicine," one is so limited in treating a subject which involves the whole narcotic question that the task is quite impossible.

The title must consider the character and the number of such institutions required, and in order to do so one should know the number of those who are the victims of addiction-forming drugs. Edwin C. Hill, the columnist, radio speaker, and all-round newspaper man, who has an able corps of investigators for the collection of facts, states that he finds many conflicting reports, ranging from one hundred thousand to a million. It is very probable that the actual number of addicts is not above one hundred and fifty thousand in the United States. Institutions are needed for only a small portion of this number, whatever it may be, as I shall attempt to show later.

Those who have had the largest experience with narcotic addicts are practically unanimous in the opinion that a large majority of them will be repeaters even though they have been confined in institutions for a period of years. The reason for this is the original cause of the addiction—simply a lack of inherent, inborn character, personality and early environment. Our State Narcotic Hospital, the only one in the United States, is a great human library and laboratory in this study. In its early days it was compelled to accept all sorts of addicts, the criminal psychopath, the real pathologic addict, and the plain addict without character and a hope of restoration. The law was changed and the Hospital could refuse many undesirables, resulting in a splendid record of rehabilitation, notwithstanding the fact that there never has been sufficient appropriation for the classified segregation of patients, and for personal character rehabilitation through psychologic, moral and spiritual teaching. This hospital has proved that some who seemed hopeless have been salvaged, and have become good citizens. Its greatest benefit to the State, however, has been the accumulation of data—mental, physical, moral, and chemical, which will be found valuable if used in future studies.

Though relatively small in comparison with the number of those who cannot be salvaged, there is no doubt that throughout the United States there are many curable addicts. There are those of inborn character with ambition, hope, some great impelling power to make good, yet not strong enough to admit their affliction or weakness. The difficulty is to find them; but if found, they should be examined by a carefully selected medical board or committee and compelled to enter a narcotic hospital, where the surroundings are comfortable and uplifting. This group, under proper institutional classification, education, and character rebuilding, will come out in due season with hope, courage and determination. The percentage of repeaters will be astonishingly small, provided they can find a useful place in this life. Of course, there is a minor number of known addicts who may be added to this list.

This is the only class for which institutions should be provided, and it is the only way in which the institutions should be conducted.

Now, what is to be done with the great group of pathologic addicts, those with demonstrable pathology who have become addicted by reason of their disease? Anybody who knows the law would at once say they are plain exceptions under both the Federal and State law (Exception 1, Article 85, Narcotic Regulations, otherwise known as the Harrison Act). Surely, the doctor should decide it, but he does not. An enforcement officer decides it. So, many physicians of good reputation have been arrested and given damnable stigma for doing their plain duty that the average physician will not prescribe for any ambulatory case and some bedside cases, however evident the need may be.

A pathetic instance of official ignorance and blundering is recently reported in Los Angeles. A zealous enforcement officer from one of the State boards (not narcotic) notified a physician that he would arrest him if he continued to prescribe for a certain man, who was a victim of Raynaud's disease, whose forearms and legs had been amputated by reason of the disease, without relief. The doctor protested that the man was an addict because of disease. The officer said, "Go ahead, and you'll get what Williams got." Naturally the physician, who was on a small salary, declined to write. The addict endeavored, in vain, to get a physician to prescribe for him. Then he bought from a peddler and was arrested. He went through the legal routine—four days without morphin—and was sent to Spadra, where he was refused admission because it is against the law to accept addicts with evident pathology. Back to the court, and after a week or two he was sent to the County Farm Infirmary where, through the mercy of God, he is being helped, so I am told. This pitiful case may be multiplied by the score since the breaking down of the Los Angeles County Medical Clinic, by the arrest of Dr. E. H. Williams, chairman of the Narcotic Committee, and of his associate, Doctor Steele. It is reported that there were eight deaths in the clinic lists within five weeks after it was closed, by reason of morphin deprivation.

Why was the clinic closed? It had existed some fifteen years under the direction of the Los Angeles County Medical Association. There has been but little trouble with the local officers, and much coöperation with officers. The Narcotic Bureau at Washington had fought clinics for years—perhaps with some justice in some cases. They knew, however, that the Los Angeles County Clinic was legal, and it is asserted that they must terrorize the County Medical Association by arresting Doctor Williams. After much work they set a trap, with a stoolpigeon to catch Doctor Williams. Doctor Williams did not prescribe for this man. He acted merely as a consultant, examined the patient, found he had syphilis of the central nervous system, and recommended antiluetic treatment. Morphin was not mentioned by him. Yet Doctor Williams was convicted "for writing a prescription that even the prosecution stipulated he did not write."

There is no need for hospitalization of the pathologic addict. A medical board, such as we had, should decide that the addict has sufficient pathology to justify the use of narcotics and the board should authorize prescribing for him. Then there would be no problem. This is the one great definite clearance that should be made in the Federal and State laws. It is a medical problem, and the physician should be the judge, as the law intends. If so arranged, no physician need fear the stigma, disgrace, and expense of trial for doing what his profession allows and requires him to do. The enforcement officer would be relieved and there would be better coöperation with such a board. Senator J. Hamilton Lewis said at the recent meeting of the American Medical Association that the medical profession can get anything it wants from Congress if it unitedly tries. Surely, California should start the movement.

As for the poor, confirmed, incurable addict, many plans have been suggested. Neither the state nor the nation is in financial condition to care for a hundred thousand of him in institutions. Until we become sufficiently civilized to euthanasially exterminate idiots, imbeciles, morons, the hopelessly insane, and, as Osler jokingly said, "all over sixty," why not give such addicts their drug balance legally under the supervision of a medical board, with the enforcement officers under their supervision.

The principal reason for the apathy and ignorance of the medical profession on the subject of narcotics lies in the fact that only the neurologists, the psychiatrists, and general practitioners, for the most part, come in contact with these cases. In small towns and in the country, addicts are rarely found. But the disgrace, stigma, and sometimes ruin of one physician in five hundred by the absurd interpretations of this law by enforcement officers, and some juries, should arouse the whole profession to action. The "crooked" doctor would be more easily caught and more severely punished by the boards of medical men suggested.

The public is being educated to believe that the narcotic question is the most vital question of the age by propagandists having selfish interests. Yet it is a minor consideration in comparison with other questions with which the nation has to deal.

In conclusion, may I ask the reader if he knows why he could buy an ounce of morphin for $1 in 1913, but in 1935 he must pay about $17 for a legal ounce? Does the echo answer a racket? And who is getting it?

* * *

J. C. Geiger, M. D. (Department of Public Health, City and County of San Francisco).—The tendency to use narcotic drugs in one form or another seems to be almost universal. Nearly all of the countries on earth have their special drugs; opium in many forms, Indian hemp (hashish, bhang, marajuana), and cocain, are probably the most frequently used. In oriental countries certain of these drugs may be used in sufficiently small quantities, so that the typical effects of serious addiction may not occur extensively. True addiction depends to a very large extent on the personal characteristics of the individual drug user. A narcotic drug is not necessary for the development of a drug addiction. Apparently one may become addicted to almost anything. A case has been reported where the patient felt a craving for ordinary household starch, consumed almost a pound of it a day, and finally came to the attention of her doctor because of serious digestive disturbance. Another patient habitually carried pins in her mouth, chewing them till they were literally bitten into fragments. Addiction itself seems more nearly related to the human tendency to form comforting habits than to any actual drug effect.

Narcotic drugs are first taken for a wide variety of reasons. Probably a large proportion of drug users belong to an underworld group where drug peddlers, who are usually also drug takers, are common enough figures. Many addicts have well-established habits before they are twenty years of age and the instability of adolescence, the love of experimentation and defiance of any prohibitions, may play considerable parts in the initiation of such habits in the young. Another large class of drug users is found among those persons who can get easy access to drugs, such as doctors, members of their families and trained nurses. Sometimes the habit is begun by the use of a drug for the relief of pain, and physicians still tend to dispense opium rather freely for conditions causing only minor discomfort.

All persons who have taken narcotics even over considerable periods of time do not become narcotic addicts. It is the personality of the user which is the deciding factor. However, morphin, which is the commonest habit-forming drug in use in this country, produces, along with the physical symptoms, definite character changes which make its discontinuance almost impossible. Thus a morphin addict, who appears genuinely anxious to be cured, will resort to all possible schemes to insure himself of a supply of his drug even while he is in a hospital for a cure. In one hospital it was found necessary to move the patients from room to room, and to be sure that nothing whatever could come in from the outside, because supplies of the drugs were secreted in the clothing, hidden under the wall-paper, and even soaked into letter-paper and blotters which were sent to the addict by his friends.

In only the rarest instances can a chronic drug user be cured outside of an institution, and even in special hospitals, planned for this purpose, the problem is not very hopeful. Then again, after freedom from the necessity for the drug has been secured, a recurrence of the habit is exceedingly common. New worries or strains very often send the victim back to his drug, and the habit is re-established in a very short time.

The cure of a person against his will is one of the most thankless tasks facing workers in a narcotic hospital. Resentment against the imposed ordeal, dread of the inevitable wretchedness of the withdrawal stage, and even defiance of any effort to produce a permanent cure, are common. Such patients have been heard to say that the first thing they would do on leaving the hospital would be to find a supply of the drug, and show everyone how much good the cure had done. Recurrence of the addiction in such cases as this is almost a foregone conclusion.

A drug addict, besides being a menace to himself, is a definite danger in the community because of the strong proselytizing tendency which seems to be a part of the picture of the drug habit. Probably the habit is started by the example and at the suggestion of older users more often than in any other way.

No matter what care is used in the treatment of morphin addicts, permanent cures are decidedly the exception; hence, for the country as a whole the solution of this important problem lies in stricter control of the dispensing of the drug, and even more emphatically in the elimination of drug peddlers and the control of drug users, since they are responsible for the greatest proportion of new addictions.

* * *

George Parrish, M. D. (Los Angeles, City Health Department, City Hall).—Twenty years have gone by since the Harrison Narcotic Bill was passed, yet little genuine good has been accomplished in suppressing the use of narcotic drugs. The Harrison Narcotic law was amended by the Revenue Act in 1918, and has since then been regarded by authorities as a revenue measure pure and simple. Regarded as a moral measure, it has been a failure. For many years following the passage of the Harrison law, drug addiction was thought to be nothing but a vicious habit, which could be broken by will power and stopped if the victim chose to do it. One faction, the arresting officers, still leans toward this belief; while the second group, medical authorities, knows the fallacy of these claims.

About the close of the war, when the question of how to treat addicts assumed national prominence, a small coterie of eastern physicians became actively interested in the subject. This self-appointed group believed addiction a vicious habit and tried through legislative means and otherwise to hospitalize every addict. Immediately private hospitals sprang up everywhere and each offered a positive cure. This type of hospitalization rapidly became a racket, for the cures were failures and the patients went out and returned to the drug. The propaganda or agitation emanating from this medical group has evaded and ignored sound medical findings. As a substitute for open discussion of known medical facts, this group set up a propaganda for the incarceration of all drug users and the elimination of the family doctor. The personal views of this pioneer medical coterie found their way into the federal, state, and municipal regulations, and although twenty years have gone by, their early opinions still regulate and guide the actions of our lay officials.

From the very first, the sincerity of the actions of this group was questioned. In 1921, the *New York Medical Journal* voiced its mistrust of this Narcotic Committee. The *Illinois Medical Journal,* in 1921, wrote: *"Who* is this Harrison Law?" It then charges the committee with working against the medical profession. In 1920, *Harper's Weekly* said: "There is a grave menace of what might be termed legislative doctoring. We mean the practice of medicine by legislative dictation, instead of at the discretion of educated, experienced and responsible physicians. We mean that efforts are being made to invest the politicians and lawyers who compose the majorities of Congress and the state legislatures with the power to say what drugs shall and shall not be prescribed for sick people, and in what doses they shall be administered."

Thousands of similar protests have been registered against the arbitrary actions of the Internal Revenue Department and its rulings which invariably insist that the addict is a criminal, and the doctor is also a criminal if he tries to alleviate the suffering of the addict. Even the courts themselves are bewildered and disagree in the interpretation of the Harrison Law. In the case of *Foreman* vs. *United States,* 255 Federal 621, the court says, "The issuance of a prescription for narcotic drugs by a physician not 'in the course of his professional practice only,' without participating in the sale by the druggist, is not a sale which is prohibited by the Harrison Act." In another case the United States court at San Francisco said that "the Harrison Narcotic Act is merely a revenue measure," and that he "would impose no heavy sentence upon its violators." On the other hand, another court—case of Doremus—has ruled that it is unlawful to furnish an addict his drug just to satisfy his craving.

Since 1914 down to 1935 the system as advocated and enforced by all concerned has been one succession of failures. Medical men now recognize addiction as a disease almost hopelessly incurable. It is definitely a pathologic condition, and in the near future will be so recognized. Twenty years of failure to help the addict should call for a new deal for him. Time and experience have shown that police measures are not essential for the successful treatment of most addicts. A quarter of a century has been lost regarding and handling them as criminals, and nothing has been accomplished.

As is the case with every other known malady, why not let the physician take care of this disease?

Some years ago centralized clinics for treatment of addicts were advocated by medical men and several cities opened them. Federal agents, still believing all addicts to be criminals, arbitrarily closed them. In 1919, Mr. Daniel Roper, Commissioner of Internal Revenue, issued a pamphlet in which he said: "Internal Revenue agents should confer with all local authorities for the purpose of establishing, at the earliest practicable date, public clinics where relief may be afforded in conformity with the law. Clinics have already been established in several cities."

In spite of Mr. Roper's statement, the agents of the department continued to close all clinics. These clinics should again be opened to the addict. A clinic will give temporary relief to the addict at a minimum cost. The sole object of a clinic is to relieve suffering until such a time as scientific treatment may be had. A clinic does not cure, for patients roaming at large are not cured. The basis of operation is: (1) Legitimate supply versus illegitimate trafficking; (2) to prevent the making of new addicts; (3) it will reduce to a minimum the practice of repeating, and traveling from doctor to doctor; (4) it will tend to discourage office prescribing, which has led to much scandal; and (5) it will take the addict out of the hands of the bootleggers. A city-governed clinic should purchase its own supply of narcotics. The doctor in charge should write his own prescription for each addict, which should remain on file. The city's dispensary should fill it. No other pharmacy should be allowed to fill it. No physician, except the clinic doctor, should be permitted to prescribe more than one grain of a narcotic drug a day for any single patient unless said patient was definitely hospitalized or bedridden. No doctor should be allowed to charge more than $2 for any prescription containing narcotic drugs.

The average addict uses eight grains a day, for which the city clinic would charge 80 cents as against $8, which he now pays the peddler. This would drive the peddler out of business. It is admitted that clinics are not perfect; but to date our hospitals have for the most part been failures, in addition to being burdens on the taxpayers. In 1920, Honorable Sara Graham Mulhall, Deputy New York State Narcotic Commissioner, wrote: "Of 2,600 addicts released from the Riverside Hospital, New York, over 90 per cent went back to the drug. The cost of these patients was $200 per capita." The failure of cures in hospitals since 1920 has been equally as great as before 1920. A law which requires enforced hospitalization for all will do an injustice to many a person. There are many addicted persons of highest character and personality holding fine positions. Under our present system, these men, now earning a living, must enter a hospital or bootleg their dope. All addicts out of work or too poor to purchase their drug, or the underworld type, should be hospitalized, and each state should care for its own addicts. A clinic may not be a panacea, but even its most bitter enemies can offer nothing better. The combination of clinic and hospital seems to be the ideal one at present.

Neither Government, state nor city is ready to offer the addict a cure. Local hospitals cannot scientifically treat him. Institutions advertising cures are usually fakes. Each state must erect a building for this class of people. All patients who enter this institution, voluntarily or otherwise, should be legally committed for a period of not less than two years. During an addict's stay there, the first sixty days should be devoted to the gradual withdrawals of his drug, and fattening and strengthening him and restoring him to normal health. At the end of his recuperation period, he should be assigned to such work as his strength will permit. This work would not only benefit him physically, mentally and morally, but the product of his labor could be sold and should go toward reimbursing the community for his upkeep. During his incarceration, in addition to his three meals a day, he should be paid $1 a day (or perhaps only 50 cents a day) for his services, so that when turned loose at the end of his two years, he would not leave that institution a pauper, without funds and compelled by circumstances to again seek the slums. He would leave with about $650 in his pocket and filled with energy, pride, good health, and the confidence that make a good citizen. The State Social Welfare Department could find him a reputable place to board and room, and pay him his $650 at the rate of $60 a month while he hunted for and obtained a position. Having enough money to carry him until he could obtain a position, his former haunts having been abolished, and his old associates scattered, he would actually seek a higher social strata and make substantial friends. With a little help he would make a useful citizen. Some, of course, will again fall by the wayside because of the inherent defects in their mental and moral make-ups.

Experiments made by other states prove that state industrial institutions can be made nearly self-sustaining. While the states are concentrating on local problems, a uniform and nation-wide statute, based on our newer and scientific knowledge of addicts and addiction, should be adopted under a new amendment of the Constitution, giving Congress power to stamp out the drug evil in the whole country. A bill should be passed authorizing the United States Public Health Service to aid states with money where it is needed on a dollar-for-dollar basis. Under this clinic-hospital and legal plan, the narcotic evil should be reduced to a minimum. The cases of all individuals charged with smuggling or selling, or illegally giving narcotic drugs should be transferred from the local courts to the federal courts, where a minimum penalty of such uniform severity should be imposed that no one would or could try it twice. The addicts themselves when caught disobeying the law should be sent to the state institution for two years. An entirely new deal is necessary.

The present system is entirely wrong and has been since the Harrison Act was amended in 1918; and the medical organizations and medical men, in a large measure, have themselves to blame for the present situation. The questions of addiction and the care of the addicts are definitely medical problems, and the physicians themselves can no longer evade their responsibility in this field. They can no longer plead that this is not a medical matter and pass the blame to legislators and administrators. They are on trial for past apathy and for present ignorance, and for allowing the existence of certain institutions and pernicious activities which they should long ago have investigated and abated.

That honest men are prosecuted and persecuted unfairly to their detriment and that of their patients is not to be entirely blamed to the law, but in a great measure to the medical associations that permitted laymen to dictate these laws, and that permitted ignorant officials to administer the law as they pleased without remonstrance from the profession, and without furnishing scientific information to guide them in the handling of their work.

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*The Black Widow Spider.**—The black widow spider, which has been publicized so widely in California during recent years, is made the subject of a bulletin which has just been issued by the Agricultural Experiment Station of the College of Agriculture of the University of California. Its authors are W. B. Herms, S. F. Bailey, and Barbara McIvor. The bulletin represents a careful study of this arachnid and includes references to all available literature upon the subject. Complete information is given relative to its distribution, natural habitat, description, preying habits, mating habits, life history, longevity, venom apparatus, and nature of the venom. The bulletin also contains reports of laboratory experiments. It is interesting to note that some difficulty was experienced in encouraging spiders to bite laboratory animals. In this connection, the authors state: "The fallacious idea prevails that the black widow is a vicious spider which will pounce upon one's person and inflict a bite without cause. The black widow is a shy spider and seeks dark places where it is less apt to be disturbed. Because of this characteristic, it was difficult to induce a bite on the animals used in the laboratory. Some individuals will bite more readily than others and these remain so no matter how often they are used. The period of starvation before using a specimen to inflict a bite has little influence on the readiness to bite."

Following are extracts from the bulletin pertaining to the effect of the bite on man, treatment, and control:

Effect of Bite on Man.—"The chain of symptoms resulting from the bite of the black widow spider is so striking that once recognized there is little danger of confusing it with other venomous forms or an acute surgical abdominal condition.

"Cases of arachnidism, or spider-bite poisoning, have been incorrectly diagnosed by those unfamiliar with the symptoms as a ruptured ulcer, acute appendicitis, renal colic, tabetic crises, tetanus, and food poisoning.

"Abdominal incisions and postmortems have revealed the intestine to be contracted nearly to the size of a lead pencil, resulting in a paralytic ileus.

"The bite itself (similar to a pin prick) is not always felt and often there is but little evidence of a lesion. However, a slight local swelling and two tiny red spots may occur, and local redness is usually in evidence at the point of attack.

"Pain, usually in the region of the bite, is felt almost immediately and increases in intensity, reaching its maximum in one to three hours and generally continuing for twelve to forty-eight hours, gradually subsiding. A rigidity and spasm of the larger muscle groups of the body (particularly the abdomen) are most notable. The abdominal muscles become boardlike, but local tenderness, as in appendicitis, is most always absent. There is a slight rise in body temperature, increased blood pressure, and also, as Bogen (1932) reports, a definite leukocytosis, that is, an increase of number of leukocytes in the blood, and usually an increase in the pressure of the spinal fluid. A profuse perspiration is evident and often a tendency to nausea.

"The degree with which such symptoms are present varies in individual cases, and other symptoms such as chills, urinary retention, constipation, hyperactive reflexes, priapism, and a burning sensation of the skin are frequently reported.

Clinical Case Records.—"Data have been compiled from thirty-seven case records of arachnidism during the last ten years at the Woodland (California) clinic. Of the total number of cases, about one-half were bitten on the genitalia while using an open privy. Four of the cases were female patients and the remainder males, the majority of which were laborers and farmers between the ages of twenty and fifty.

"Five school children were among those treated. The temperature and pulse of the patients were usually slightly above normal, and the respiration normal. Morphin sulfate (one-quarter grain) was employed in twenty-five cases and other drugs, such as codein amidopyrin, atropin, etc., in the remainder.

"There was no correlation between the time of the day and the bites. The spider was seen in eleven cases. None of the patients reported any after-effects on the follow-up inquiry by the attending physician.

"Only two deaths were reported in these records: one (June 25, 1924), a male of seventy-eight years, with heart and syphilitic complications, and the other (July 13, 1925), also a male (an itinerant), of forty-four years, who died four days after being bitten. Postmortem examination of the latter case showed a ballooned intestine and the patient was recorded as dying of a paralytic ileus resulting from a black widow spider bite.

"An examination of the record shows the greatest number of bites during June, July, and August, although cases were admitted to the hospital (Woodland clinic) every month in the year except December, January, and March.

Treatment.—"When bitten by a black widow spider, the patient should be treated with local antiseptics, such as tincture of iodin, at the point of injury to prevent secondary infection, kept as quiet as possible and a physician summoned at once.

"Contrary to the popular belief that the treatment should be the same as for rattlesnake bite, cauterization, the use of a tourniquet, etc., are not recommended by the best medical authorities. Since, among other properties, the venom appears to be neurotoxic and its effect little short of instantaneous, such first-aid measures are of little value.

"Professional treatment for the bite of the black widow spider consists mainly in the use of opiates, hydrotherapy, and similar measures to alleviate the acute pain. Medical records show, according to Bogen (1926-1932), a list of more than seventy-five different remedies and of all these, three seem to be outstanding as palliatives: namely, spinal puncture, intravenous injections of magnesium sulphate (10 cubic centimeters of a 2 per cent solution; see Bogen, 1932, and DeAsis, 1934), and intramuscular administration of convalescent serum when given within eight hours. However, until more evidence on controlled cases is at hand, the question as to which method is the best remains an open one. Also, individual cases vary greatly and exhibit much inconsistency in their response to treatment.

"As Bogen (1932) states, in part '. . . despite its severe symptoms, arachnidism is, in the majority of cases, a self-limited condition, and generally clears up spontaneously within a few days.' . . . —*Weekly Bulletin, California Department of Public Health,* Sacramento, June 22, 1935.

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* See also page 328, for article on this subject.

CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section (Adv. pages 2, 4 and 6).

CALIFORNIA MEDICAL ASSOCIATION

ROBERT A. PEERS	President
EDWARD M. PALLETTE	President-Elect
FREDERICK C. WARNSHUIS	Secretary-Treasurer and Associate Editor for California

STATE AND COUNTY SOCIETY ACTIVITIES

FINANCES—RECENT SPECIAL EXPENDITURES

The year 1935 presented several major problems that were of vital concern to the Association and its members. The House of Delegates, after consideration, formulated Association policies and delegated to special committees and to the Council the responsibility of instituting these policies and the obtaining of their adoption. The House of Delegates directed the Council to provide the necessary money to defray the expenses of these special committees, fixing no amount for such expenditures. No limitation was specified.

In discharging the duties with which it was charged, the Committee of Five incurred obligations to the amount of $34,866.65. Under the mandate of the House of Delegates the Council paid this total obligation with Association reserve funds.

Under specific instructions of the House of Delegates the Committee of Six incurred obligations in the amount of $4,736.19. Under the mandate of the delegates, the Council paid this obligation with reserve funds of the Association.

These two extra expenses, totaling $39,602.84, were occasioned by specific resolutions adopted by delegates convened in regular and special sessions. They were not incurred by the Council or by any officer of the Association. The House of Delegates being the supreme authority in this Association, the Council had no alternative but to comply with the mandate and action of the House of Delegates.

The foregoing information is published in order that every member may understand the authority upon which (and for which) these reserve funds were expended. Further, to correct statements that have been made that these expenditures were incurred by reason of action that originated in the Council.

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VISITS OF THE PRESIDENT, PRESIDENT-ELECT, AND SECRETARY TO COUNTY SOCIETIES

President Peers, President-Elect Pallette, and Secretary Warnshuis propose to attend one meeting of as many county societies as possible during this fiscal year.

To date they have attended meetings of the following societies: Sacramento, Alameda, San Francisco, Kern, Fresno, Marin, Sonoma, Napa, Solano, Siskiyou, Tehama, Humboldt, Lassen-Plumas-Modoc, and Butte.

The purpose of these visits is to make personal contacts, ascertain local conditions and problems, to stimulate society activity, and to impart a clearer insight to the members in regard to the policies, programs and functions of the State Association.

It is a very genuine pleasure to meet and contact our members. Mutual profit and good result. New engagements for visits to other counties are being made each month.

DEFEATED CAPTAINS

The dean of St. Paul's, in London, addressed a group of doctors from all over the world in these words:

"I greet you as defeated captains. You are always doomed to final failures in your encounter with disease."

In the end the Dean's comment is true enough; but we are meeting the enemy more successfully than ever before in the history of the world, and though we are still doomed to final failure (and who would have it otherwise) that finale is being put off longer and longer for the average person.

Life expectancy has been increased from 53 years to 61.3 years.

Tuberculosis has been demoted from the position of "Captain of Death."

Diphtheria mortality has been reduced almost to the vanishing point.

Typhoid fever is no longer the skeleton in the cupboard.

The following are today the leading causes of death.

	Per 100,000
Diseases of the heart	261
Cancer	126
Nephritis	86
Cerebral hemorrhage	80
Pneumonia	77
Accidents	71
Tuberculosis	56
Congenital malformations and diseases of infancy	49
Diabetes	28
Suicides	10

While we shall always, in the end, be defeated captains it will be noted that our defeat is at the hands of degenerative diseases, and for the average person it has been delayed until the age of sixty-one years.

* * *

SCIENTIFIC EXHIBITS

Members desiring to present scientific exhibits at the 1936 annual session in Coronado are requested to file their application with the State Secretary. In making application, please send a brief description of the exhibit, space required, and light requirements. There is a limited space available in the Coronado Hotel. This will be assigned in the order in which applications are received. Every effort will be made to accommodate members, but when available space is exhausted it will be impossible to provide additional space.

Acceptance of applications is decided by the Scientific Program Committee.

* * *

LOCAL COMMITTEE ON ARRANGEMENTS

Conforming to by-law provisions, the chairman of the Council has appointed the following local Committee on Arrangements: C. O. Tanner (chairman), Harold Dewey Barnard, Ralph Kaysen, R. C. Lounsberry, and C. B. Bernardini.

* * *

TO AVOID MALPRACTICE SUITS

1. Keep a complete record of each case, covering hospital, home, and office care, including telephone advice.
2. Do not spare x-rays.

3. Avoid as far as possible telephone diagnoses and treatment.
4. Fill out death certificates accurately and completely. These may be used as evidence with incriminating consequences.
5. Do not perform an autopsy without a written permission from the nearest relative.
6. Avoid carelessness and ill-founded opinions.
7. Defer pressing collections against dissatisfied patients until the period of limitations has expired.
8. Be guarded in your prognosis.
9. Encourage calling in consultants.
10. Remember the Golden Rule.

* * *

ASSOCIATION ROSTER OF MEMBERS

The following name of a member of the California Medical Association was inadvertently omitted from the list of members published in the September issue: P. F. Haskell, Artesia.

* * *

OLD MEMBERS

October 11, 1935.

J. Roy Jones, M. D.,
California State Life Building,
Sacramento, California.

Dear Doctor Jones:

I have not forgotten your request for information regarding the physicians listed in your letter of February 2, but with the large amount of work on hand during the first months of the year, it has not been possible to give much time to the research work required.

Recently, I wrote Doctor Pinkham asking if he knew of any physician now living older than Dr. E. W. Bathurst, and he has sent us a copy of letter which he wrote you under date of October 3.

All the past records of the Association on file in this office have been carefully gone over, and we find the following data:

Of the following physicians there is no record of membership in the Association: J. Ridgeley, T. T. Cabaniss, George C. Furber, W. H. Gatliff, S. Southard Harwood, Asbury C. Helm, Arad Jewell, C. A. McCash, Frederick J. McNulty, S. Mix, J. A. Mooers, Daniel Ream, J. W. Reims, A. M. C. Smith, H. Wadsworth, and E. Wadsworth.

Dr. E. W. Bathurst has been a member since 1916, possibly before.

Dr. Charles S. Cowan was a member from 1886 to 1898.

Dr. Benjamin M. Gill was a member from 1892 to 1896.

Dr. Charles W. Butting (deceased), from 1885 to death in 1929.

Dr. Will H. Tebbe (deceased), from 1916 to death in 1929.

Dr. Frederick H. Tebbe is now a member of the Alameda County Medical Society, with offices at 527 Dalziel Building, Oakland. It is possible you might obtain more information from him.

I realize that this information is very meager and gives nothing of the personal history desired. Our files in this regard are very incomplete. In fact, it is only within the last few years that any attempt has been made to assemble any of the historical records of the Association. If you succeed in obtaining further data regarding the lives and work of the splendid men who have made up the State Society in the past, we will be glad to have them for our historical files, as you suggest.

Very truly yours,

F. C. Warnshuis, M. D.,
Secretary-Treasurer.

* * *

RADIO BROADCASTS

The Radio Committee of the San Francisco County Medical Society deserves commendation for its activity in preparing and executing a program of radio broadcasts under the caption, "Science Edits the News." This program will be extremely valuable in building sound public opinion in regard to the question of public health and sound medical practice.

* * *

The San Francisco County Medical Society enters its fifth year of radio broadcasting. During that time approximately four hundred broadcasts have been completed through stations KFRC and KJBS in two fifteen-minute periods a week. These talks have met with encouraging response, and we have a wide following. Recognition of their value has been acknowledged by KYA and its allied channel of the press, the Hearst papers.

At their request, coincident with the recently granted approval by the board of directors of the county society, we transfer our broadcasts exclusively to that station (KYA) on Tuesday, October 15. Hereafter, until so changed, every Tuesday at 6 to 6:15 p. m. our Society will endorse and produce a program entitled, "Science Edits the News."

A sponsor will undoubtedly soon seek our program. When that sponsor has been approved by the board of directors an income will immediately accrue to the Society of no small means. I need not dwell upon the unlimited possibilities of such a program. Before the first of the year KYA will increase its power five times, enabling to have full Pacific Coast coverage. In addition, we shall have the benefit of proper and ethical publicity in their chain of papers.

These new broadcasts will be different from the rather didactic type of "lecture" heretofore presented. The chief purpose now is to give the public honest facts in an ethical matter concerning newspaper items related to medicine and its allied sciences. Thus we shall be able to be of great service to our community in giving them honest information of value, as well as the opportunity to crack down on the charlatan whose nauseating misinformation now fills the air. I am sure that the more truth concerning medicine the public has, the less we shall be the victim of "cultist" propaganda and legislative attempts, and certainly our opportunity here is great to teach, to caution and to increase respect for true Hippocratic medicine.

In this effort we ask your help, criticism, and patience. We are without financial aid as yet, but we know what can be done through this medium of expression, what we want to do and what we intend to do in an ethical and rational manner. Please tell your patients and your friends to listen to these broadcasts every Tuesday at 6 p. m. over KYA. The success of any program depends upon the reaction of the listeners.

H. M. F. Behneman, M. D.
Chairman, Radio Committee, San Francisco County Medical Society.

* * *

A BORROWED THOUGHT

If a man builds a house and leaves it exposed to the sun, the wind, the rain, the frost, it will, from the very moment when he ceases to put work into it, begin to decline; unless he continue to be a builder, to use paint and timber and cement as occasion arises; the elements will undo his work and all will return through destruction to nothingness.

It may only take a few years, it may take centuries: but infallibly the creation of man's hands will deteriorate and dissolve; unless man fights he must be defeated.

This is as true of a man's character and of a man's profession as it is of his monuments and his houses. Unless he goes on creating and constructing new forms of service in his profession they will infallibly succumb to inertia, which lies like the sea around every effort of man's spirit.

Most of us have seen with regret the young man who, perhaps, after leaving public school or university, slowly declines from progress to stagnation, from stagnation to deterioration, because he has allowed to die within him the determination to build a finer personality. He thinks his education was complete when he took his degree, and he ceases to strive. He becomes less ambitious, less interested and, finally, even less intelligent.

The foregoing is the "borrowed thought" which the present thought seeks to displace—to prevent the borrowed thought from becoming an actuality in California. It has been authentically stated that the doctor of medicine who pursues no postgraduate studies during the five years after graduation falls quite far in the rear of the front lines of modern scientific practice. It has also been demonstrated that the same doctor of medicine who in ten years does not exert himself to pursue postgraduate studies, only the exceptional one by his own personal effort is able to regain a position in the first line of modern medical practice. Are you that exceptional man?

In order that you may become that exceptional man, the California Medical Association, through its Committee on Postgraduate Clinical Conferences, has arranged to provide opportunities to remain abreast of medical progress. The committee urges that every member avail himself of the opportunities that are now being arranged for our members by our one-day conferences in each councilor district of the State. Continue to complete your education. If you do, there will be no stagnation among the doctors of medicine in California. "We perceived the shadow to have moved, but did not see it moving." This is an admirable text—a sermon in itself—whereby one may narrate the progress of scientific medicine. Are you remaining in the shadow of medicine? Will you emerge from the shadow into the brilliant sunlight of modern scientific progress?

COMPONENT COUNTY MEDICAL SOCIETIES

CONTRA COSTA COUNTY

The Contra Costa County Medical Society met in regular monthly session on Tuesday, October 8, at the Hotel Carquinez, Richmond.

Those attending were: Doctors Lucas, Weil, J. B. Spalding, Clara H. Spalding, Ross Powell, William Powell, Ross, Hedges, Dozier, Blake, Fraser, Daily, Carpenter, Morrow, and Taylor; Dr. G. D. Delprat, Doctor Brown, C. Johnson, D. D. S., Mr. Ben Reed, all of San Francisco; Mrs. Nora Purviance of the Health Center, Mr. Rafter of the Richmond Cottage Hospital.

Dr. S. N. Weil reported on a letter and request from the State Emergency Relief Administration asking the sanction of the local medical society as to the handling of those SERA patients who require personal medical care and supplies for such acute and urgent conditions as properly come under this grouping. Dr. J. B. Spalding made a motion that the fee schedule included in Miss Epstein's letter be adopted (this fee schedule being almost identical with the State Compensation fee schedule) and that a panel of physicians serve, this panel to consist of all eligible physicians in the county, whether they be members of the Contra Costa County Medical Society or eligible for membership. Motion was seconded by Doctor Weil, and carried.

Request was made by the SERA that the president appoint a committee of two to serve as auditors in the event of a question arising as to fee charged. Doctor Lucas stated that this committee will be appointed later.

The meeting was then turned over to Dr. Thomas Dozier of Antioch, chairman of the evening. Doctor Dozier introduced the guest speakers. Dr. G. D. Delprat spoke of the need for the Public Health League of California and something of its history. Chester Johnson, D. D. S., told of the purpose of that body and something of the things they have accomplished so far. Mr. Ben Reed reviewed very comprehensively the activity of that organization during the past session of the State Legislature. He told of its vigilance, its accomplishments, its hopes, and its warning signals. And, no doubt, everyone who heard him received a more comprehensive grasp of the legislative situation than they ever had before. He told of the excellent coöperation which had been rendered by our own Senator Sharkey and Assemblyman DeLap, and suggested that we vote them our thanks. He informed us that Contra Costa County was one of the very few counties in the State where no local chapter of the Public Health League of California had been formed. He urged that we take such action at once.

Doctor Fraser made a motion that we go on record as approving the organization of a local chapter, which motion was seconded and carried.

Doctor Lucas appointed Dr. Kaho Daily chairman of a committee for the organization of a chapter. Doctor Daily is to appoint his own supporting committee, taking cognizance of the other two professional groups, namely, the dental and nursing professions, which are most vitally interested.

Suggestions from the various members followed as to modes of procedure, and it was finally decided to leave to the discretion of the organization committee the matter of meetings and speakers.

Doctor Lucas announced that the Board of Supervisors have not yet responded to the request of the Contra Costa County Medical Society that they meet with the Committee on Public Relations.

Doctor Lucas announced the next meeting will be the customary informal dinner, with election of officers for 1936, to be held on November 12.

Clara H. Spalding, *Secretary.*

HUMBOLDT COUNTY

The Humboldt County Medical Society had their renewal of meetings after summer vacations, on the evening of September 19 at St. Joseph's Hospital. President Charles Falk, Jr., presided.

The following papers were presented: *Surgery of the Colon in Carcinoma* by John W. Cline of San Francisco, and *Peptic Ulcers and Electrocardiogram* by H. M. Behneman of San Francisco. Both papers were well presented, our members getting a great deal of good from the material given and having the doctors with us.

Lawrence A. Wing, *Secretary.*

ORANGE COUNTY

The regular meeting of the Orange County Medical Association was postponed from September 3 to September 17. On the latter date the meeting was held at the usual place, the Chapel of the Orange County Hospital.

Doctors Dale Phetteplace of Fullerton, Elmer Otis of Brea, Thomas Rhone of Orange, and Paul Esslinger of Capistrano were elected to membership.

Two amendments to the Constitution were voted down; one was increasing the initiation fee, and the other was increasing annual dues.

Mr. Speed, manager of the Medical Bureau, gave a report on the progress of this collecting agency, which consists only of members of the Orange County Medical Association. Although it has only been formed about four months it is beginning to pay for itself, and the percentage charged was enough during the past month to pay all expenses and, in addition, to make a little profit.

Dr. J. J. Montanus presented the scientific paper of the evening on *Cancer of the Breast, with Special Reference to Prognosis and Grading of Tumors.* He gave a classical, scientific dissertation which showed a fund of knowledge and profound thought and study. The paper was well received, and it was moved by Doctor Clark, and carried, that this paper be submitted to the Journal for publication.

The October meeting of the Orange County Medical Association was held on Tuesday, the first, in the Chapel of the Orange County Hospital at 8 p. m.

A representative of the Occidental Life Insurance Company presented a plan for the surgical and medical care of families. This plan is apparently the best so far presented; however, on the motion of Doctor Hollingsworth, the Society went on record as not endorsing any health insurance company scheme that has been suggested to date.

Doctor Farrage, in a communication from the Santa Ana Post of the American Legion, suggested that the disaster committee work of the Legion be extended throughout the county and that the medical society have complete control over the medical phase of this work. It was brought out that the Red Cross and Legion plans somewhat overlap, and on motion it was agreed that a committee be appointed to work with the Legion and the Red Cross in this matter.

Dr. John Kraushaar was unanimously elected to membership. The application of Dr. Llewellyn E. Wilson was read for the first time.

The scientific paper of the evening was given by Dr. Karl E. Kretzschmar of Los Angeles on *The Injection Treatment of Hernia.* After considerable discussion of his excellent paper the meeting adjourned.

WALDO S. WEHRLY, *Secretary.*

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RIVERSIDE COUNTY

The regular meeting of the Riverside County Medical Society was held at the Riverside Community Hospital on October 14 at 8 p. m.

The topics and guest speakers were: *Infections of the Skin—Bacterial, Fungus, and Parasitic,* by Samuel Ayres of Los Angeles, and *Elimination of Pain After Rectal Operation and in Rectal Treatment,* by Norman J. Kilbourne of the same city.

It was stated that the Program Committee is endeavoring this year to put on programs of special value to all the members. We hope that members will keep the meetings in mind so that we may have as full an attendance as possible.

The Tri-County Postgraduate Conferences will be held again this fall. Dates and speakers will be announced later.

THOMAS A. CARD, *Secretary.*

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SACRAMENTO COUNTY

A regular meeting of the Sacramento Society for Medical Improvement was called to order by the president, Orrin S. Cook, the evening of September 17 at the Elks Temple.

Fifty-two members and guests were present.

Dr. Lorenz W. Ruddy reported a case of *Scleroma.* This is a rare condition characterized by a sclerosing and scarring infection of the mucous membranes of the nasopharynx. The etiology, epidemiology, symptoms, and treatment were discussed.

The Sacramento Society for Medical Improvement was honored by the presence of R. A. Peers, president, and F. C. Warnshuis, secretary-treasurer, of the California Medical Association. Doctor Peers gave a speech and presented the new charter to the Society. Doctor Cook accepted the charter.

Doctor Warnshuis gave an interesting talk on the activities of the California Medical Association. His talk was followed by a general discussion.

The application for membership of Doctor Almada was read for the first time.

Applications from Doctors Charmicheal and Prisinzano were read for the second time, and according to the Constitution were voted upon by the members present. Both applicants were unanimously accepted into membership.

FRANK WARNE LEE, *Secretary.*

SAN BERNARDINO COUNTY

The annual meeting of the San Bernardino County Medical Society was held at the Arrowhead Springs Hotel on Tuesday, October 1.

Dinner was served at 7 p. m., seventy-five members and guests being in attendance.

Dr. J. A. Patterson suggested that since it was "ladies night," those members not bringing their wives be fined 25 cents each, and officers 50 cents, and that the money be added to the E. J. Eytinge Memorial Fund. The president asked Doctor Patterson to collect, and $7.50 was collected.

The following resolution, passed by the Council for the Society's action, was read:

Be It Resolved, That after due consideration and discussion of the resolution made by the Committee on Public Relations and the Committee on Political Relations, that the decision to do SERA medical work be left to the individual member of the Society, and that the Society disapprove of the present voluminous red tape now required in filling out medical reports for SERA clients.

Dr. F. F. Abbott read a very interesting paper discussing this problem. Dr. C. A. Wylie pointed out the splendid coöperation given the Society by Doctors Moreland and Nicola. The resolution was re-read a number of times, and there was considerable discussion. It was moved by Doctor Baylis that the Society disapprove the resolution. Seconded by Doctor Clough. After further discussion Doctor Baylis withdrew his motion, and Doctor Clough moved that the resolution be laid on the table. This motion was seconded, and passed.

Dr. F. F. Abbott moved that the Committee on Public Relations be instructed to work out some system to decrease the present SERA red tape and arrange a new fee schedule along the lines of the industrial accident fees, and make some provision for laboratory work in order that a high grade of medical practice may be possible, and that this report be presented to the Council of the California Medical Association at its next meeting. Seconded by Doctor Wylie, and passed.

The new president, Dr. D. C. Mock, was then installed and the elective officers announced.

The address of the retiring president, Dr. C. L. Emmons, was then given.

A short talk was given by State Assemblyman G. W. Corwin.

Mr. Ben Read, executive secretary of the Public Health League of California, then addressed the Society on *What Happened in Sacramento.*

A. E. VARDEN, *Secretary.*

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SAN JOAQUIN COUNTY

The regular monthly meeting of the San Joaquin County Medical Society was held in the staff dining room at the Stockton State Hospital on October 3 at 6:30 p. m. The medical society was the guest of the medical staff of the State Hospital. A delicious dinner was served to fifty-seven members and guests. Following the dinner the regular meeting was called to order at 7:55 p. m. by President C. A. Broaddus.

Dr. Alfred M. Tunnell was elected to membership in the San Joaquin County Medical Society, having been transferred from the Marin County Medical Society.

Doctor Van Meter gave a report on the graduate study course and stated that twenty-four men had signed up to date for this series of lectures. He stated that the St. Joseph's Hospital staff had given up their regular meeting night, the second Thursday of the month, so that this course could get started as rapidly as possible. Doctor Van Meter stated that the medical society was very grateful to the St. Joseph's Hospital staff for this courtesy.

Doctor Fitzgerald moved that the Society thank the staff of the State Hospital for the delicious repast which had been served. This was seconded by Doctor O'Donnell, and passed by a standing vote.

A program was given by the staff of the State Hospital. The members participating in the program were: Doctors Margaret H. Smyth, F. J. Conzelmann; T. W. Hagerty, H. C. Rixford, F. S. Marnell, N. E. Williamson, and Ione Pinney. The paper of the evening was given by Dr. George Stephen Johnson of the Stanford University Medical School. His subject was *Borderline Cases in the Neuropsychopathic Field.* This presentation caused lively discussion among the members of the Society.

G. H. Rohrbacher, *Secretary.*

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held on Monday evening, October 14, with President E. Kost Shelton presiding.

Dr. John P. Doyle of Los Angeles, formerly of the Mayo Clinic, gave an extremely interesting and instructive paper on *Chronic Alcoholism.* This was discussed by Dr. John Van Paing.

Dr. E. T. Remmen of Glendale then introduced Mr. Ben Read, executive secretary of the Public Health League of California.

Mr. Read gave a very enlightening talk upon the activities of the Legislative Committee of the State Association during the last session of the legislature, relating many of the difficulties encountered in defeating many vicious bills opposed by the medical profession. He explained in detail many of the important bills relating to the Medical Practice Act passed by the legislature. Mr. Read stressed the fact that the chiropractors and antivivisectionists were still with us, and that they would bring out new measures in the next session.

The important bill fostered by the medical profession will be the Basic Science Act, and advised that all doctors and dentists prepare mailing lists at once, so that they will be ready for active support when the bill is presented.

Doctor Ware reported for the Publicity Committee, and after much discussion it was decided that this committee should obtain more detailed information and then present this information to the Council, and that the Council should recommend whatever action should be necessary.

It was moved, seconded, and unanimously carried, that letters of appreciation be sent to Senator Stow and Assemblyman Robertson for their efficient and effective work in the legislature in the interests of the medical profession.

A letter from Drs. Geyman, Clark and Ware concerning radiology in hospitals was read and ordered filed.

Doctor Henderson reported for the Advisory Committee of the SERA and advised that doctors wishing to be placed on this panel should report to him.

The application of Dr. Johanna Dispensa was read, and upon balloting she was unanimously elected into the Society.

The Sparklets Water Company invited the Society to be their guests at a luncheon and football party. Moved, seconded, and carried, that while the Society appreciated the invitation, it was felt that the invitation could not be accepted by the Society as a whole, but that individual members would be glad to attend.

Doctor Roome asked for an opinion regarding the Health Conservation contest sponsored by the United States Chamber of Commerce, action to be taken at the next meeting.

William H. Eaton, *Secretary.*

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SISKIYOU COUNTY

The regular meeting of the Siskiyou County Medical Society, in conjunction with the Shasta County Society, was held at the McCloud Hospital at McCloud on Sunday, October 20. The meeting was called to order by President J. R. U. Campbell, who turned the meeting over to the State Association officers.

State President Robert Peers gave a fine address, outlining the governing bodies of the State Association and their method of selection. He also defined their functions and powers. Doctor Peers talked at some length on the Journal, stressing several points:

1. The importance of the members reading the monthly editorials. The editorials each month are merely the opinions of Doctor Kress. He desires to hear of any disagreement with his views and welcomes such criticism. In this way he is informed of the different opinions held in the large State Association.

2. Importance of reading the minutes. These minutes describe all Association procedures and inform the readers of any and all progress.

Doctor Peers also talked on the nine councilors and the need of the separate county societies calling on their councilor for advice. He also stressed the importance of the officers' luncheon, which is held at every State Association convention, at which the Association officers can get together with the county society officers and discuss problems.

Dr. Walter B. Coffey, chief surgeon for the Southern Pacific lines, gave a very interesting and pregnant talk, stressing the importance of the unanimity of organized medicine.

Mr. Hartley F. Peart, State Association attorney, gave an instructive talk on recent legislative problems and the new Hospital Association Bill just passed.

Dr. C. E. Schoff of Sacramento, councilor for the eighth district, gave a short talk, as did Dr. Henry Rogers of Petaluma, councilor for the ninth district. Doctor Rogers presented to Dr. George S. Martin of Susanville the new charter for the newly formed Lassen-Plumas-Modoc County Society.

Dr. Frederick Warnshuis, Association Secretary, gave a very informative talk. His talk dealt with the problems and aims of the State Association, and he outlined the plan for public (lay) instruction and urged that all county societies join in the public instruction in health matters, which is of much more value eventually than mere criticism of cults and quacks. Doctor Warnshuis has traveled over 18,000 miles in the State of California in the past year, performing his multitudinous duties.

Some of the doctors present at this large gathering (large for us) were: Doctors J. R. U. Campbell of Dunsmuir, M. D. Pratt of Fall River Mills, Charles Law of Weaverville, C. J. Burnett and George Martin of Susanville, E. F. Carlson of Fort Jones, Robert A. Peers of Colfax, C. E. Schoff of Sacramento, J. T. Steele of Dunsmuir, V. W. Hart and Ruth Hart of Yreka, W. C. Martin of Oak Knoll, H. R. MacVicker and H. L. Vidricksen of Weed, C. C. Gerrard, B. F. Saylor, G. L. Kay of Redding, F. W. Martin of Mount Shasta, C. M. Hanna of McArthur, E. W. Thomea of Bieber, A. H. Newton of Yreka, Henry Rogers of Petaluma, J. Langer of Hilt, Gus Braty of San Francisco, Charles Pius of Yreka, J. C. Hayes and C. W. Lemery of Medford, Oregon, and your humble scribe.

Dr. C. C. Dickinson of McCloud, our host, was very generous with his refreshments. After the meeting we joined with the Auxiliary members and their guest of honor, Mrs. Thomas J. Clark of Oakland, State Auxiliary president, in a sumptuous repast. We sincerely hope to have another meeting of this kind in the near future.

Leslie J. Seeley, *Secretary.*

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SOLANO COUNTY

The Solano County Medical Society held its meeting on October 8, at which time Dr. Stanley Mentzer was guest speaker. His talk was, *On the Differential Diagnosis of Diseases of the Gall-Bladder.*

A. E. Chappell, *Secretary.*

SONOMA COUNTY

The Sonoma County Medical Society held its regular monthly meeting for October at the Hotel Petaluma as a dinner meeting on the 10th, Dr. F. O. Butler presiding, with eighteen members and six guests being present.

The usual routine business was transacted, many communications read and acted upon, and our councilor, Dr. Henry S. Rogers, was given authority to use his good judgment in representing the Society at meetings of the Council. A plan for entering into a hospital insurance scheme was discussed, and the secretary was instructed to gather all available information upon the subject, to be presented for consideration at the next regular meeting.

W. C. Shipley, *Secretary.*

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TULARE COUNTY

The Tulare County Medical Society met on Sunday evening, September 22, for the first meeting of the fall term. Dinner at Motley's Café preceded the educational program.

The following members and guests were in attendance: Doctors Guide, Barber, Hill, Furness, Palmer, Miller, Wells, Ginsburg, Zeller, Winn, Preston, Betts, Shaw, Weiss, Rosson, Zumwalt, Hicks, Falk, Johnson, O'Connell, Mathias, and Parkinson.

Doctor Winn of Springville Sanitarium outlined a proposed tuberculin test survey in the high schools of Tulare County. Doctor Mathias made a motion that the Tulare County Medical Society go on record as approving the program of tuberculin testing. This was seconded by Doctor Betts, and carried.

Doctor Betts, as chairman of the committee comprised of Doctors Betts, Mathias, and Fillmore, presented a proposed SERA medical plan with a suggested fee schedule for Tulare County. On motion of Doctor Ginsburg, Drs. Austin Miller, J. C. McClure, and A. W. Preston were recommended as the Tulare County Medical Society Advisory Committee to this plan, and a list of the 1935 county membership roster appended as a panel, specifying that members in each community serve on rotation. The motion was carried and the committee instructed to inform Mr. E. M. Howard, county director of SERA activities, of this action.

Dr. Elmo Zumwalt briefly recapitulated the present status of the recent poliomyelitis epidemic, which seems to have run its course at this date.

During the last few weeks, members have been solicited to join the staff of a W. B. Mayo Laboratories of Medford, Oregon, and it has come to the attention of the Society officers that two of our members have signed agreements. A communication from the Council of the California Medical Association views this proposal with disfavor and recommends that members do not support this form of exploitation. A copy of the communication has been mailed to each member. Dr. R. C. Hill, as chairman of the Board of Censors, suggests this matter be referred to our district councilor.

Doctor Ginsburg called attention to the matter of objectionable competitive practice by certain members of the Society and this has been referred to the Board of Censors.

The educational part of the program followed the routine business session. We had as our guest speaker Dr. Edward B. Shaw, associate clinical professor of pediatrics at the University of California Medical School, who spoke on *The Clinical Management of Poliomyelitis.* A most complete presentation of this subject, which has so recently involved us locally, was given and our ideas crystallized as to the present most effective clinical management of the disease. Doctor Shaw spent considerable time after the presentation of his paper, answering the many questions. He was given a rising vote of thanks for his splendid paper.

Karl F. Weiss, *Secretary.*

CHANGES IN MEMBERSHIP

New Members (47)

Contra Costa County.—William E. Cunningham, Peter Ross.

Los Angeles County—

William M. Empie
E. Dwight Farrington
William P. Garrison
F. Kenneth Gates
Archie A. Jones
Emmet F. Kesling
William L. MacBeth
L. A. Mangan
Horace H. McCoy
Port McWhorter
Jack K. Moore
Anton H. Nerad
Clyde A. Noland
John G. Norman
Orin J. Riddell
Edward J. Rowan
David Z. Schwartz
Turner B. Smith
John L. Wales
Nathan R. Wallentine
Orand F. Wellman
Nealy C. Woods

Orange County.—Paul H. Esslinger, John C. Kraushaar, Elmer F. Otis, Dale O. Phetteplace, Thomas B. Rhone.

Placer County.—Bernard W. Hummelt, Paul S. Phelps.

Sacramento County.—Dudley V. Saeltzer, Henry L. Saverien, Joseph E. Tillotson.

San Diego County.—R. Emerson Bond.

San Francisco County—

William E. Borley
Parry Douglass
Alice Fath
Milton M. Hartman
Susan C. Jones
Oscar K. Mohs
James F. Rinehart
Lionel J. Stookey
Vinko V. Suglian
Frederick S. Wolff

Santa Clara County.—Daniel Bilker, James C. Muir.

Transferred (3)

Walter Rapaport, from Alameda County to Napa County.

Joseph E. Tillotson, from Sacramento County to Yolo-Colusa-Glenn County.

Alfred M. Tunnell, from Marin County to San Joaquin County.

In Memoriam

Ayer, Philip Edward. Died at Los Angeles, October 11, 1935, age 35. Graduate of the Jefferson Medical College, 1923. Licensed in California in 1925. Doctor Ayer was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Bryan, Eugene Henry. Died at Penryn, October 8, 1935, age 66. Graduate of Hospital College of Medicine, Louisville, 1894. Licensed in California in 1901. Doctor Bryan was a member of the Placer County Medical Society, the California Medical Association, and the American Medical Association.

✠

Floersheim, Samuel. Died at Los Angeles, October 3, 1935, age 59. Graduate of the Bellevue Hospital Medical College, New York, 1898. Licensed in California in 1919. Doctor Floersheim was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Lynch, Edward Clarence. Died at Montebello, September 18, 1935, age 51. Graduate of Creighton University School of Medicine, Omaha, 1906. Licensed in California in 1929. Doctor Lynch was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Nahman, Adolph Herman. Died at San Francisco, September 18, 1935, age 58. Graduate of Northwestern University Medical School, 1909, and licensed in California the same year. Doctor Nahman was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

C.M.A. DEPARTMENT OF PUBLIC RELATIONS†

Service Recognized

Announcement was made in a previous issue that upon contacting the State Forestry Department the California Medical Association was requested to organize an emergency medical corps in each state fire area. This was done by securing nominations from county medical societies.

The following extract from a letter which was received after the recent San Antonio fire, indicates the value of such an emergency corps:

> On our San Antonio fire of last week we called the California Forest Medical Corps, and they responded twelve strong.
>
> At this time I want to cite the services of Doctor Bailey, who, borrowing a pair of shoes from Captain Rosenburg, climbed four miles up a steep mountainside and gave first aid to a boy with a broken back. He also took blankets with him, made a stretcher and supervised the packing of the boy from the fire line.
>
> I believe the California Forest Medical Corps is going to prove very valuable to the United States Forest Service in rendering first aid on fires, earthquakes, or any other catastrophe. I wish to thank you for your efforts in helping organize this group of doctors.
>
> Very truly yours,
> William V. Mendenhall,
> *Forest Supervisor.*
> By William V. Jones,
> *Acting Forest Supervisor.*

* * *

Health Insurance

Proposition: *Resolved,* That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense.

The foregoing question has been selected by the National University Extension Committee as the subject for debate by high-school and college students during the present school year. The Extension Committee's subcommittee on debate materials, through Professor Bower Aly of the University of Missouri, has prepared two debate handbooks giving a large list of reference subjects and reprints on many articles for and against the proposition. E. C. Buehler of the University of Kansas has prepared a 360-page Debaters Help Book. Many reference outlines are available.

Since the debate subject was announced every mail brings in several letters from all over the country as well as from California, requesting specific information as to the work of the Committee of Five, the bill that was introduced in the last legislature and the present situation in this State. Lacking approved literature, writers are referred to their local libraries.

It will be interesting to watch the public reaction to the presentations made by debate teams.

* * *

Press Releases

For the past six months press releases have been sent every week to some two hundred California newspapers. The purpose of these releases is to transmit dependable facts and advice related to public health, preventive medicine and medical progress.

The following subjects illustrate the nature of these releases: "Is Your Child Fit for School"; "Family Medicine Chest"; "Physical Examination of Football Players"; "Snake Bites"; "Carbon Monoxid Poisoning"; "The Common Cold"; "Diphtheria"; "How to Live with Your Heart"; "A Broken Bone"; "Tuberculosis," etc.

While every newspaper does not print all the releases sent to them, our clipping returns lead us to estimate that we are obtaining about 50 per cent publication. It is especially gratifying to note that wider publication is had in newspapers in smaller communities. Their readers are provided with what is probably their only source of information on medical and health subjects. It is felt that this education program will do much toward creating a sound public opinion regarding public health and medical care.

Members can greatly aid by contacting their local editors to urge the regular publication of these releases. A word of commendation will enable your Committee on Public Relations to obtain greater publicity.

* * *

Our Public Health Institutes

By the time this issue reaches you our first Public Health Institute will have been held in Oakland on November 4 and 5. In previous issues a general announcement was made of the nature and purpose of these institutes. In our next issue an illustrated description will be published.

Generous credit is given to the Alameda Auxiliary and County Society for their active work in perfecting arrangements, providing assistants, and in assuming direction. These units, by interviews and tact, enrolled community sponsorship by securing the coöperation of all the leading lay organizations. Just how this was done will be told in the next issue.

County societies and auxiliaries have been requested to submit dates for the holding of a similar Health Institute in their respective counties. These institutes constitute one of the major functions of the Committee on Public Relations. By this means it is proposed to give visualized information upon health, prevention of disease, and medical care to the public of this State. As an annual event in each community, it can be assumed that in due time desired results will be perceived in an enlightened public that will benefit by reason of this dependable form of health education.

* * *

Contacts

The following contacts have been made during the past month: State Parent-Teacher Association; Federation of Women's Clubs; Nurses' Association; Vision Conservation Association; Narcotic Inspectors.

The purpose of these contacts is to gain recognition for the Association in an advisory capacity in all matters related to public health, medical care and service.

* * *

Federal Fee Schedules

The Federal Compensation Commission has sought to secure an acceptance by physicians and hospitals of a fee schedule covering x-ray services, physiotherapy, and anesthesia. The fee table is impossible. A five- and ten-dollar anesthesia fee for a hospital-employed lay anesthetist is quoted. Physiotherapy is to be included in the $4 per day hospital rate.

A protest was filed with the secretary of the Commission, which brought the following letter.

> United States Employees' Compensation Commission
> Washington, October 1, 1935.
>
> Dear Doctor Warnshuis:
>
> The Commission has received your telegram of September 28, 1935, in which you protest on behalf of the members of the California Medical Association the fee schedule for x-ray examinations which you state the Commission has declared "as constituting nonmedical services," and which you also state are "unreasonable and unwarranted."

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† The complete roster of the Committee on Public Relations is printed on page 2 of the front advertising section of each issue. Dr. Charles A. Dukes of Oakland is the chairman, and Dr. F. C. Warnshuis is the secretary. Component county societies and California Medical Association members are invited to present their problems to the committee. All communications should be sent to the director of the department, Dr. F. C. Warnshuis, Room 2004, Four Fifty Sutter Street, San Francisco.

In reply to your protest, I have to advise that it apparently is based on erroneous infirmation concerning the position of the Commission regarding payment for x-ray services. The Commission has not defined x-ray examinations as nonmedical services and it has not officially promulgated a fee schedule for such services except as one item of an agreement with the several National Hospital Associations. The fees agreed upon with representatives of the National Hospital Associations apply to x-ray services furnished through hospital facilities and do not apply to individual members of your Association. In this connection your attention is directed to paragraph 7 of the published schedule of hospital fees agreed upon between the Joint Committee of the American, Catholic, and Protestant Hospital Associations and this Commission.

Concerning your request that the Commission authorize fees for this service equal to the State compensation fee schedule, it is necessary to advise that the Commission cannot officially adopt this schedule. The question of adopting the fee schedule in effect in the various States was carefully considered by the Commission, and after consultation with representatives of the American Medical Association it was concluded that this course would not be practicable. Fees for services rendered to injured employees of the Works Progress Administration by private physicians will be paid at rates not in excess of the minimum charge prevailing in the community for similar services. The Commission believes that this is a fair and equitable basis for the settlement of claims for medical services, especially in view of the fact that physicians rendering such services are certain to receive compensation therefor, which I am sure you will recognize is not always the case in private practice.

Very truly yours,
(Signed) William McCauley,
Secretary.

A request was then sent to the American Medical Association to endeavor to obtain through their representative the following action by the Federal Commission:

1. That the practice of roentgenology be declared to be as follows: That branch of medical science which deals with the use of radiant energy in the diagnosis and treatment of disease, including the art of making radiographs and all steps pertaining thereto.
2. That technical services by unlicensed physicians be not recognized or condoned.
3. That a fee schedule equal to the average schedule of every community be approved and promulgated.
4. That institutional or hospital practice of medicine be not recognized. To do so would be abetting a field of corporate practice of medicine.
5. That the United States Compensation Commission be respectfully requested to issue a new hospital fee schedule to cover hospitalization and to approve a new fee schedule to cover radiology out of the hospital.

I shall be greatly obliged if you will advise me in regard to the results of your representations.

Members are requested to insist on these conditions before agreeing to render services to injured federal employes. In principle we object to the determination of fees by federal commissions and hospital administrators without conferring with the licensed doctors of medicine.

* * *

Division of Forestry

Sacramento, California,
October 18, 1935.

Dr. Frederick C. Warnshuis,
450 Sutter Street,
San Francisco, California.

Dear Doctor:

We have recently been handed the roster of the California Forestry Medical Corps, which is sponsored by the California State Chamber of Commerce and the California Medical Association. It is indeed heartening to me to know that the medical profession is seriously taking its part in the protection of California's valuable forest resources, and I want to take this opportunity to welcome you as a coöperator in this field of activity.

I have had the opportunity to observe the medical corps in action on two instances. You, no doubt, realize that we, who are in an official capacity with reference to protection of the forests from fire, are often embarrassed with well-meant but overenthusiastic citizen coöperation. I was, therefore, delighted to observe the efficient and business-like manner in which the doctors responded to the fire call, and their very effective work.

Very sincerely yours,
M. B. Pratt, *State Forester.*

* * *

Radio Broadcasts

This is for the information of members:

Perhaps you are aware of the fact that some thirty or more high-school debating leagues are debating this year the following question:

"*Resolved,* That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense."

The medical profession throughout the entire country has been most helpful in assisting these schools and debaters in securing authoritative information.

The National Broadcasting Company is providing the facilities of its red network for a chain broadcast on this question on Tuesday afternoon, November 12. The following statement gives the essential facts concerning this broadcast:

Speakers

Affirmative: William Trufont Foster, director, Pollak Foundation; Professor Bower Aly, University of Missouri, editor of the *Debate Handbook.*

Negative: Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*; Dr. R. G. Leland, director, Bureau of Medical Economics, American Medical Association.

Time: November 12, 2 to 3 p. m., eastern standard time (1 to 2 p. m., central standard time; 12 to 1 p. m. mountain standard time; 11 to 12, Pacific standard time).

Stations broadcasting: NBC red network and affiliated stations.

No doubt many of your members will be interested in hearing this debate, as I anticipate there are no two speakers who can present the negative more effectively than Doctors Fishbein and Leland. Perhaps you can arrange to see that the information reaches all of your members, either through an announcement in your monthly publication or through a special bulletin or post card. We have no information as to the exact list of stations which will handle this broadcast, so each person interested should get in touch with the radio stations in his area, urging those affiliated with NBC to carry the broadcast for the benefit of the high-school debaters, the medical profession, and others interested in this discussion.

If we get definite information later, the Association Secretary will endeavor to send to the county societies a complete list of the stations included in the network on this occasion.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION†

MRS. THOMAS J. CLARK ....President
MRS. ELMER BELT......Editor and Chairman of Publicity

State Auxiliary News

Philadelphia's Health Institute. — This year the Woman's Auxiliary to the Philadelphia County Medical Society presented for the fifth time its annual health institute. In this admirable endeavor to advance an understanding of scientific medicine among the lay public, the Philadelphia Auxiliary has been pioneer. Each of its all-day sessions has been increasingly successful, carefully planned, ably presented, and well attended. With interest in health institutes particularly active just now in California—the Alameda Auxiliary after several months of planning has about completed the arrangements for its initial effort in this line to be held November 4 and 5 in the Civic Auditorium of Oakland, the San Diego Auxiliary is planning one for presentation in the spring, besides a series sponsored by the California Medical Association with which the Auxiliaries have been asked to coöperate—the program of Philadelphia's 1935 institute is perhaps of special concern.

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† As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

Their health institute of this year was built about the theme, *Health During the Depression.* The morning program opened at ten o'clock with an address of welcome by the president of the county medical society, Dr. Seth Brumm. There followed three half-hour talks, one on *Prenatal and Maternity Care* by Dr. Ruth Hartley Weaver; another on *The Health of Pennsylvania's Children,* which was based on the findings of the State Emergency Health Committees and given by Dr. B. Frank Royer; and the third on *Why We Do Not Profit by Our Mistakes* by Dr. E. A. Strecker. A two-hour intermission for the luncheon was allowed, and the afternoon session began at two o'clock. Mrs. Robert W. Tomlinson, then president of the National Auxiliary, and Mrs. Laurrie Sargent, the State Auxiliary president, each said a few words of greeting before the three talks of the afternoon. Dr. Emily P. Bacon spoke on *Child Care,* Dr. Chevalier L. Jackson on *Dangers of Swallowing Caustics and Foreign Bodies,* and the closing speech, by Dr. Stanley P. Reiman on the *Menace of Cancer,* ended the day's program promptly at 3:30 p. m.

* * *

A Public Relations Report.—Through the "National News Letter" comes a report from Oregon of the work of the Public Relations Committee of the Multnomah County Medical Auxiliary, whose chief center is the city of Portland. During the current year the Auxiliary has been represented on the legislative and health committees of the State Federation of Women's Clubs, the members attending all the meetings and taking an active interest in health questions. Also on the Women's Joint Legislative Council, a most important group organized by the League of Women Voters and the Association of American University Women, the committee was ably represented. One of their members was appointed health chairman for the State Federation group, a position of considerable power and prestige. The health chairmen of Parent-Teachers Associations were contacted and the use of the study envelopes explained to them, and the suggestion made that the use of them as permanent lending libraries in the various schools might be helpful. There are now 651 copies of the envelopes in service in some forty Parent-Teachers groups. The committee reached twenty-five program chairman in the schools and succeeded in placing scientifically trained and qualified speakers on many of the health programs throughout the year. In addition to this the committee, with the help of other Auxiliary members, actively conducted a successful preëlection campaign in opposition to the healing arts amendment.

* * *

County Auxiliary Reports

Alameda County.—On Friday, September 20, the Woman's Auxiliary of Alameda County Medical Association met at the Claremont Country Club. A board meeting was held in the morning before the luncheon, at which time plans for the Public Health Institute on November 4 and 5 were discussed. Mrs. Sutherland reported that most all the leading clubs and organizations of Oakland have promised their coöperation, and with the help of the County Medical Association we hope to give the public something very worth while.

Following the luncheon hour, Dr. J. C. Geiger, health officer of the city of San Francisco, talked to us on the work accomplished by the Auxiliaries. Mr. George Calvin discussed bills coming up before the legislature, and Mrs. Harold Trimble gave an illustrated talk on the history of medicine. This talk is the first of a series of fifteen-minute addresses which will be given by members of the Auxiliary throughout the year.

Another activity during the month of October will be a dinner for our husbands on October 22. Some very fine talent has been secured, and we are looking forward to an interesting evening.

Laura S. Henry, *Publicity Chairman.*

* * *

Los Angeles County.—The Auxiliary's main midsummer activity was their annual "Fiesta para los Médicos," celebrated on Saturday evening, August 24, in the lovely Del Amo gardens. Mrs. Barrow appointed Mrs. A. Brockway as Hospitality Chairman, assisted by Mrs. Rafe Chaffin, and together they planned a delightful occasion. Dinner was served at long tables under the pergola, and strolling Spanish troubadours added gaiety with their music and charming folk songs. Dancing, cards, music, and much fun at the fortune-telling rendezvous, filled the evening hours for nearly 250 guests.

This year promises to prove an extremely busy one if every month measures up to September, which has been crowded with activity; committees drawing up the year's plans and programs, suburban county groups holding business sessions, and the social calendar of the whole county formally opened with the president's tea, held in the beautiful home and garden of our gracious leader, Mrs. John V. Barrow. Over five hundred members and their guests attended, the Board and Social Activities Committee, under the direction of Mrs. Franklin Farman, assisting Mrs. Barrow as hostesses. The Auxiliary was proud of being able to call upon talented members of its own group for entertainment; Mrs. Walter Wessels rendered violin selections and Mrs. Peter O. Sundin, a number of songs. This opening event was given over to recounting vacation experiences, detailing plans for the winter's work, and interesting nonmembers in joining.

To stimulate interest in the Auxiliary among the residents eligible in Wilmington and San Pedro, a tea was held at the home of Mrs. W. W. Horst of Wilmington on September 11. That the remarks of Mrs. John V. Barrow, who addressed the group, were challenging was evidenced by the animated hour of discussion that followed. Another tea of the month was that at which our energetic chairman of *Hygeia,* Mrs. Mark Glaser, entertained a group of members and mapped out an ambitious campaign for their efforts in *Hygeia's* behalf. It is her aim that each member of the Auxiliary be responsible for the sale of two yearly subscriptions to that magazine at the cut rate of $1.25 for the twelve months.

The Long Beach branch of the Woman's Auxiliary held their initial meeting on October 1, at which time Mrs. Francis B. Settle was elected chairman of the Harbor branch, Mrs. Ralph Eusden, the vice-chairman, and Mrs. R. W. Swinney, the membership chairman. Mr. Ben Read, executive secretary of the Public Health League of California, addressed this dinner meeting, discussing pending legislative bills which have to do with medical matters.

Mrs. Harold E. Crowe,
Corresponding Secretary.

* * *

Orange County.—A large and enthusiastic gathering of members of the Woman's Auxiliary to the Orange County Medical Association met at the home of Mrs. Hiram M. Currey in Santa Ana on the afternoon of October 1. Mrs. Ray C. Green of Fullerton presided. The treasurer reported the sum of $150 in the Student Loan Fund. As proof that the Program Committee, under the direction of Mrs. K. H. Sutherland, had been busy during the summer, the program leaflet for the ensuing year displayed an interesting variety of book reviews, musical entertainment, and addresses by prominent speakers. At each meeting there is also scheduled a discussion of some recent medical event. Following out this idea, a résumé was given of the articles on recent medical and public health legislation, appearing in the June, July, and August issues of the *California Public Health Guardian.* The thoroughly enthralling part of the program was a review of Hans Zinsser's "Rats, Lice, and History" by Mrs. Merrill W. Hollingsworth, who succeeded in conveying to her audience Doctor Zinsser's inimitable humor as well as his presentation of the whole panorama of history. Mrs. Currey and her assisting hostesses, Mesdames Glenn Curtis, H. C. Nelson, E. L. Russell, H. MacVicker Smith, and K. H. Sutherland, then served tea at a charmingly appointed table at which Mrs. R. C. Green and Mrs. G. Emmett Raitt presided.

Jessie Q. Raitt, *Publicity Chairman.*

* * *

Sacramento.—The regular meeting of the Woman's Auxiliary to the Sacramento Society for Medical Improvement was held Tuesday afternoon, June 18, at the home of Mrs. F. F. Gundrum, with the president, Mrs. F. N. Scatena, presiding. As all reports for the year had been turned in at the previous meeting, the minutes were read and approved and the afternoon was then given over to the Entertainment Committee, under the leadership of Mrs. Dave Dozier. The beautiful garden of Mrs. Gundrum's home was the scene of the party, with gay parasols and tables for the pleasure of the guests. Each guest had been requested to bring her bathing suit, and the large pool was a popular spot. The entertainment consisted of a bathing revue, made up of comic stunts and costumes worn many years ago. At the close of the program Mrs. Gundrum, assisted by Mesdames Dave Dozier, E. S. Babcock, F. W. Lee, Hans Schlueter, Charles Vanina, Orrin Cook, George Briggs, Angus McKinnon, and Miss Florence Reckers, served delicious refreshments in the garden.

The September meeting was held at the home of Mrs. Russel Harris on Tuesday evening, the 17th, with the president, Mrs. F. N. Scatena, presiding. A letter from Dr. F. C. Warnshuis in regard to a Health Institute was read, and our coöperation urged. A motion was passed to support this undertaking in whatever way we would be able. Mrs. Scatena announced that our year should be changed to begin April 1 in place of January 1, so as to run concurrently with that of the State. A motion was passed to so do. Mrs. Krull asked for more reading material for the County Hospital library. Three new members were then introduced—Mrs. Paul S. Phelps, Mrs. R. C. Atkinson of Colfax, and Mrs. L. Sanborn of Folsom. The next meeting is to be held at the home of Mrs. George Briggs. The speaker of the day was Miss Margaret Graham, who talked on her trip and experiences in the Orient and exhibited a collection of beautiful and interesting art objects. The hostess, Mrs. Harris, assisted by Mesdames Cordes Ankele, C. Bittner, C. B. McKee, Charles von Geldern, E. Servier, H. R. Johnson, C. Doe, and B. Ross, served a delicious tea.

Sarah L. Brendel, *Corresponding Secretary.*

* * *

San Diego County. — The regular meeting of the Woman's Auxiliary to the San Diego County Medical Society was held at the Casa de Bandini on October 8. Mexican girls in native costume, in keeping with the tradition of this old Spanish house, served a delicious luncheon. Mrs. Willard Newman, the social chairman, announced plans for the annual dinner dance to be given on November 6 at the El Cortez. About seventy-five couples are expected to attend. The president, Mrs. Emil C. Black, urged all members to tune in on the American Medical Association's radio programs given each Tuesday afternoon over NBC. These programs are fine dramatizations of medical events and should interest lay radio listeners as well. The Auxiliary members, through their various contacts, can call the attention of many persons to these programs. For the afternoon's entertainment Mrs. Winston Crabtree gave a splendid reading and interpretation of the play "Yellow Jack" by Sidney Howard and Dr. Paul de Kruif. The play deals with the discovery of the cause of yellow fever, the brave "human guinea-pigs," and the development of a specific serum for treatment. This reading concluded one of the most interesting meetings the Auxiliary here has ever had.

Lucile Newton, *Secretary.*

* * *

Santa Clara County.—The October meeting of the Woman's Auxiliary to the Santa Clara Medical Association was held on October 7 at the Los Altos Country Club, with Mrs. Russel Lee presiding. Fifty members were present, and participated in the discussion of three new amendments to the Constitution. As this was the first meeting of the fall series all the new members were introduced. Following this a Brahms musical program and tea, complimentary to the new members, were enjoyed. Those who took part in the entertainment were: Mrs. George Barnett, soloist, Mrs. Sanford Nelson, piano accompanist, and the Brahms trio, consisting of Miss Elizabeth Pierce, Mrs. Milton Saier, and Mrs. Stanford Nelson. Presiding at the tea table were Mrs. Charles M. Richards and Mrs. C. Kelly Canelo, the past president.

Mrs. Merlin T.-R. Maynard,
Corresponding Secretary.

Proposed National Oxygen Tent Service.—In England, the oxygen tent is regarded as the most efficient means devised for the administration of oxygen, but it is not generally available. A number of leading teachers of the London hospitals have, therefore, sent a joint memorandum to the British Red Cross Society asking for help in rendering the tent more readily available in hospitals and in patients' homes. The society has responded by coöperating in the establishment of a national oxygen tent service. But before embarking on a complete scheme, which would involve much expense, the society wants to collect more data than are at present available on the value of the oxygen tent in various conditions. To obtain this it has placed an order for the construction of twelve sets of apparatus, which will soon be available. One tent will then be placed at the disposal of each of the principal London hospitals. The hospitals have been asked to make a trial of the tent over a period of not less than two months by keeping comprehensive records of the cases for which the tent has been used and reporting on the value of a national service. At the end of the trial the hospitals can acquire the tent by refunding the cost to the society. In its most modern form the tent is built on an adaptable frame and can be raised or lowered by means of a handle behind the bed. The patient is kept under observation through noninflammable celluloid windows. — *Journal of the American Medical Association.*

In 1869 Matthew Arnold wrote: "The great men of culture are those who have had a passion for diffusing, for making prevail, for carrying from one end of society to the other, the best knowledge, the best ideas of their time; who have labored to divest knowledge of all that was harsh, uncouth, difficult, abstract, professional, exclusive; to humanize it, to make it efficient outside the clique of the cultivated and learned, yet still remaining the best knowledge and thought of the time, and a true source therefore of sweetness and light."

That public health originated in the attempt to relieve crude physical suffering and especially to achieve this only by preventing disease, does not take from its present or future immensity greater importance. That it has reached already its present outstanding influence is proof enough of its inherent strength derived wholly from its truth—that is, its correspondence with, not things just dreamed about, but things that are—not with just some things in the universe, but with all things.—H. W. Hill, M. D.

MISCELLANY

Under this department are ordinarily grouped: News Items; Letters; Special Articles; Twenty-five Years Ago column; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

American Association of Railway Surgeons, Chicago, November 13-15, 1935. Louis J. Mitchell, M.D., 86 East Randolph Street, Chicago, Secretary.

American Society of Tropical Medicine, St. Louis, November 19-22, 1935. Alfred C. Reed, M. D., 350 Post Street, San Francisco, Secretary.

California Medical Association, Coronado, May 25-28, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco, Secretary.

Pacific Coast Society of Obstetrics and Gynecology, Los Angeles, November 6-9, 1935. T. Floyd Bell, M. D., 400 Twenty-ninth Street, Oakland, Secretary.

Southern California Medical Association, Los Angeles, November 29-30, 1935. Robert W. Langley, M. D., 1930 Wilshire Boulevard, Los Angeles, Secretary.

Western Surgical Association, Rochester, Minnesota, December 6-8, 1935. Albert H. Montgomery, M. D., 122 South Michigan Boulevard, Chicago, Secretary.

Medical Broadcasts*

The American Medical Association broadcasts over the blue network of the National Broadcasting Company at 5 p. m. eastern standard time (4 p. m. central standard time, 3 p. m. mountain time) each Tuesday, presenting a dramatized program with incidental music under the general theme of "Medical Emergencies and How They Are Met." The title of the program is "Your Health." The program is recognizable by a musical salutation through which the voice of the announcer offers a toast: "Ladies and Gentlemen, Your Health!" The theme of the program is repeated each week in the opening announcement, which informs the listener that the same medical knowledge and the same doctors that are mobilized for the meeting of grave medical emergencies are available in every community, day and night, for the promotion of the health of the people. Each program will include a brief talk dealing with the central theme of the individual broadcast.

* * *

San Francisco County Medical Society.—The radio broadcast program for the San Francisco County Medical Society for the month of November is as follows:

Tuesday, November 5—KYA, 6 p. m.
Tuesday, November 12—KYA, 6 p. m.
Tuesday, November 19—KYA, 6 p. m.
Tuesday, November 26—KYA, 6 p. m.

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Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of November is as follows:

Saturday, November 2—KFI, 9 a. m. Subject: The Advance of Medicine.
Saturday, November 2—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, November 5—KECA, 11:15 a. m. Subject: The Advance of Medicine.
Saturday, November 9—KFI, 9 a. m. Subject: The Advance of Medicine.
Saturday, November 9—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, November 12—KECA, 11:15 a. m. Subject: The Advance of Medicine.
Saturday, November 16—KFI, 9 a. m. Subject: The Advance of Medicine.
Saturday, November 16—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, November 19—KECA, 11:15 a. m. Subject: The Advance of Medicine.
Saturday, November 23—KFI, 9 a. m. Subject: The Advance of Medicine.
Saturday, November 23—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, November 26—KECA, 11:15 a. m. Subject: The Advance of Medicine.
Saturday, November 30—KFI, 9 a. m. Subject: The Advance of Medicine.
Saturday, November 30—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Los Angeles County Hospital Postgraduate Courses for Practical Physicians.—Under the auspices of the Los Angeles Medical Department, University of California, announcement is made of a series of postgraduate courses for practicing physicians. The instruction in the various courses will be centralized around the clinical material of the Los Angeles County Hospital, the teaching being done by members of the attending staff of that institution. The new main building of the Los Angeles County Hospital, erected and equipped at a cost of $15,000,000, is the largest structure of its kind in the world. The bed capacity of the entire hospital is 3,410, the new main unit containing 2,444 beds. The hospital's corps of physicians consists of 531 attending men, eighty-two full-time residents, twenty-eight part-time residents, and has 126 internes in residence. The Olive View Sanatorium for Tuberculosis, also operated by the county, represents an investment of $2,500,000, and has a bed capacity for 971 patients, with a full-time staff of sixteen members.

The series of courses announced will each cover a five-day period (Monday to Friday, inclusive); all courses commencing on Monday, November 18, 1935.

A dinner meeting of the entire teaching staff and physicians attending the courses will be held in the headquarters building of the Los Angeles County Medical Association on Thursday evening, November 21, at 6:30 o'clock, to be followed by a general meeting in the auditorium in joint session with the Los Angeles County Medical Association, at which Dr. Robert A. Peers of Colfax, president of the California Medical Association, will be the guest speaker.

No course will be given for less than four students. Registrations for courses are limited to certain quotas and close Wednesday, November 14. The fee for each of the five-day courses is $25 (with the exception of the surgical anatomy course), and must be paid prior to November 14, the date on which the registrations close.

Applications for registration in these courses should be mailed, not later than November 12, to the Registrar, Los Angeles Medical Department, 737 North Broadway, Los Angeles.

The courses offered for the period November 11-15, inclusive, include:

Morning courses: Internal medicine; pediatrics and contagious diseases; dermatology and syphilology; tuberculosis; cardiology; roentgenology; clinical laboratory; obstetrics and gynecology; general surgery;

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* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to CALIFORNIA AND WESTERN MEDICINE, 450 Sutter Street, San Francisco, for inclusion in this column.

orthopedic surgery; genito-urinary diseases; proctology; malignant diseases.

Afternoon courses: General review course; surgical anatomy.

The instructors for the series of courses here announced include the following staff members:

Internal Medicine. In charge: John V. Barrow, Roland Cummings.

Pediatrics and Contagious Diseases. In charge: E. E. Moody, George M. Stevens, Wilton L. Halverson.

Dermatology and Syphilology. In charge: S. Ayres, Jr.

Tuberculosis. In charge: Carl R. Howson.

Cardiology. In charge: Phoebus Berman, R. Manning Clarke.

Roentgenology. In charge: Ray A. Carter, Clayton R. Johnson.

Clinical Laboratory. In charge: Newton Evans.

Obstetrics and Gynecology. In charge: Edmond M. Lazard, Ralph J. Thompson, Rafe C. Chaflin, Wilburn Smith.

General Surgery. In charge: Charles Eaton Phillips, George Thomason, A. B. Cooke.

Orthopedic Surgery. In charge: Philip Stephens, Alfred E. Gallant.

Genito-Urinary Diseases. In charge: Robert V. Day, Adolph A. Kutzmann.

Proctology. In charge: William H. Kiger, William H. Daniel.

Malignancy. In charge: George Thomason, H. P. Jacobson.

General Review Courses. In charge: John V. Barrow, Walter Wessels.

Surgical Anatomy. In charge: Foster K. Collins.

Sixth Symposium on Heart Disease.—The Heart Committee of the San Francisco County Medical Society will hold its sixth annual symposium on heart disease in San Francisco, November 20 to 21. There will be morning, afternoon, and evening sessions at the University of California, San Francisco, and Stanford University hospitals, and at the Department of Public Health.

There will be a registration fee of $5 for the entire course, or $1 for single sessions, to help support the activities of the Heart Committee in San Francisco. If you are planning to attend, please notify the secretary as soon as possible. Checks for the registration fee should be made payable to the San Francisco Heart Committee and mailed to Dr. John P. Strickler, Secretary, 604 Mission Street, Room 802, San Francisco. A registration card and program will then be mailed to you.

An outline of the program follows:

Wednesday, November 20

Morning Session, 9 a. m. to 12 noon

University of California Hospital, Toland Hall
Third and Parnassus Avenues

William J. Kerr, M. D., Presiding

9:00-9:30—Clinical Diagnosis and Treatment of Cardiac Irregularities, John J. Sampson, M. D.

9:30-10:00—Hypertension, Dudley W. Bennett, M. D.

10:00-10:45—Clinic on Coronary Occlusion, Eugene S. Kilgore, M. D.

10:45-11:15—Rheumatic Fever in Northern California, Amos U. Christie, M. D.

11:15-12:00—Clinic on Extra Cardiac Circulatory Disease, William J. Kerr, M. D.

Afternoon Session, 1:30 to 4:45 p. m.

San Francisco Department of Public Health
101 Grove Street

John J. Sampson, M. D., Presiding

1:30-1:45—Heart Disease as a Public Health Problem, J. C. Geiger, M. D.

1:45-2:00—The Completed Morbidity Survey of Heart Disease in San Francisco, Jacques P. Gray, M. D.

2:00-2:20—The Purposes and Technique of Cardiac Diagnostic Work in School Children, John J. Sampson, M. D.

2:20-2:40—The Incidence of Heart Disease in San Francisco School Children and Relation to the Rheumatic Fever Problem, Amos U. Christie, M. D.

2:45-4:45—Seminars on the Interpretation of the Electrocardiogram: William Doc, Gordon E. Hein, Eugene S. Kilgore, John B. Lagen, J. Marion Read, Harold H. Rosenblum, John J. Sampson.

Note.—In this session those who register should specify for work in either elementary or advanced study. From four to six small groups will be formed for personal study of problems from the actual records and, if desired, individuals may bring to the session problem electrocardiograms encountered in their own work.

Evening Sessions

(1) University of California Hospital
Third and Parnassus Avenues
(a) *Toland Hall*

William J. Kerr, M. D., Presiding

(Accommodations for 120)

Bring Your Stethoscope

7 p. m.

30 minutes—Murmurs, William J. Kerr, M. D.; John B. Lagen, M. D.

20 minutes—Moving-Picture Film of Cardiac Irregularities, John B. Lagen, M. D.

10 minutes—Technique of Electrocardiography, John B. Lagen, M. D., and Miss Hitch.

25 minutes—Interpretation of Electrocardiograms, R. D. Friedlander, M. D., and F. J. Underwood, M. D.

8:30 p. m.—Repetition of demonstrations.

(b) *Cole Hall*

Third Floor, Medical School Building
Herbert W. Allen, M. D., Presiding

(Accommodations for 120)
Bring Your Stethoscope

7 p. m.

10 minutes—Pulse Rate: Pulse Pressure Functional Test, John J. Sampson, M. D.

10 minutes—Venous Pressure, Dudley W. Bennett, M. D.

10 minutes—Vital Capacity, R. F. Escamilla, M. D.

10 minutes—Circulation Time, H. H. Rosenblum, M. D.

15 minutes—Adrenalin and Histamin Tests, Eric Ogden, M. D.

10 minutes—Capillary Resistance, J. F. Rinehart, M. D.

15 minutes—Tests for Vasomotor Control, Leroy K. Gay, M. D., and J. T. Hardesty, M. D.

8:30 p. m.—Repetition of demonstrations.

(2) San Francisco Hospital
Twenty-Second Street and Potrero Avenue

Don Carlos Hines, M. D., Presiding

7:30 p.m.—Special procedures in the diagnosis and treatment of heart disease. A demonstration of practical bedside methods for venous pressure, thoracentesis, Southey tubes, oxygen tent, etc.

Thursday, November 21

Morning Session, 9 a. m. to 12:30 p. m.

Stanford University Hospital—Lane Hall

William W. Newman, M. D., Presiding

9:00-9:30—The Management of the Heart After Surgical Operation, Arthur L. Bloomfield, M. D.

9:30-10:00—Recent Developments in Surgery of the Circulatory System, Emile Holman, M. D.

10:00-10:30—The Basis of Symptoms in Heart Failure, William Dock, M. D.

10:30-11:30—The Value to the Clinician of Roentgen Examination of Cardiac Patients, Harry Garland, M. D.

11:00-11:30—Some Clinical Features of Angina Pectoris, J. K. Lewis, M. D.

11:30-12:30—The Cathode Ray Oscillograph for Registering Heart Sounds and Electrocardiograms, William W. Newman, M. D., and Henry W. Newman, M. D.

Afternoon Session

2 to 5 p. m.

San Francisco Hospital
Twenty-Second Street and Potrero Avenue

Gordon E. Hein, M.D., and J. Marion Read, M.D., Presiding

Clinical and pathologic demonstrations.

Evening Session

San Francisco County Medical Society
2180 Washington Street, near Laguna

7:30 p.m.—Annual Meeting of San Francisco Heart Committee, John J. Sampson, M. D., presiding.

8:00 p.m.—William J. Kerr, M. D., presiding.

1. Use of Drugs in Cardiovascular Conditions: Chauncey D. Leake, Ph. D.; Paul J. Hanzlik, M. D.; William Dock, M. D.; Gordon E. Hein, M. D.

2. William W. Newman, presiding.

Demonstration of Interesting Roentgenograms of Cardiac Lesions (Autopsy Proven), Harry Garland, M. D.

Demonstration of Gross and Microscopic Pathologic Specimens of Various Stages of Cardiac Infarction, D. A. Wood, M. D.

Qualifying Certificate (Basic Science) References.—A list of reports on qualifying certificate laws, printed in CALIFORNIA AND WESTERN MEDICINE, is as follows:

Vol. 32, No. 4, April 1930, page 288. 186th Meeting of the Council. Item 30, Medical Practice Act and Basic Science Act.

Vol. 32, No. 6, June, 1930, page 430. Report of Special Committee on Revision of Medical Practice Act and of a Possible Basic Science Act.

Vol. 34, No. 6, June, 1931, page 448. Report of Special Committee on California Medical Practice Act and on a Proposed Qualifying Certificate (So-Called Basic Science) Law.

Vol. 35, No. 3, September, 1931, page 228. Editorial.

Vol. 35, No. 3, September, 1931, page 239. Miscellany.

Vol. 36, No. 2, February, 1932, page 128. Report of Special Committee on Medical Practice Act and on Qualifying Certificate Law.

Vol. 36, No. 6, June, 1932, page 439. Report of Special Committee on California Medical Practice Act and on a Qualifying Certificate (So-Called Basic Science) Law.

Vol. 41, No. 5, November, 1934, page 339.

Vol. 42, No. 1, January, 1935, pages 39 and 53.

Vol. 43, No. 4, October, 1935, page 304.

The above references are printed because the subject is discussed editorially in this issue.

State University Mortality Rate Is Lowest in Country.—The University of California at Berkeley has the lowest death rate among its students of any like institution in the country, whose records are available to date. And, while comparative health data are hard to obtain, the general health of the 12,000 or more students at Berkeley apparently is not excelled anywhere.

These facts were brought out by Dr. R. T. Legge, University physician, in commenting recently on the physical fitness of the young men and women who have come trooping back to the campus from all parts of the State for the opening of the fall semester. In his announcement, Doctor Legge revealed some of the extraordinary measures that the University takes to keep the students in their classroom seats healthy, happy, and mentally alert.

The student population at Berkeley suffered but five deaths in a registration of 11,731 in the last academic year, and one of these five was a homicide case. In one recent academic year no deaths were recorded in the student population, which was 10,000 or thereabouts.

This fine showing is attributed by Doctor Legge to the fact that the University concentrates on prevention as well as cure. If an epidemic of any sort breaks out in any house where a number of students are living together, the place is not quarantined, as is the case elsewhere. Instead, the sick student or students are taken to the University infirmary, while those remaining in the house are subjected to strict observation during the incubation period of the disease. In this manner but a few days are lost from classes and the sick are being given skilled hospital treatment instead of being compelled to remain at home and perhaps infect a number of others.

Threatened intellectual mortality, if it can be so classified, is given as close attention as threatened physical mortality by the University. No student is "flunked out" of college until it has been determined whether there might be some physical reason for his failure. If this is found, every attempt is made to correct it, so that the student may continue his college course. In this way the college careers of many students have been successfully salvaged where, in past years, dismissal would have been the only alternative.

The mortality showing of the State University is considered particularly remarkable by medical experts in view of the fact that the average mortality of that portion of the general population ranging from 18 to 25 years is 3.2 persons per thousand.

Lecture by Dr. Henri Coutard of the Curie Institute.—At the California Institute of Technology in Pasadena on Tuesday, October 29, Dr. Henri Coutard, chief of x-ray therapy, Curie Institute, Paris, gave an address on "Aspects of Malignant Disease, with Special Reference to the Pharynx."

Doctor's Emergency Aid "For Humanity," Says Court.*—The Los Angeles *Herald-Express* of October 21, under the above caption, in a two-column display spread, printed the following item:

> A doctor who gives emergency treatment in a city in which there is no receiving hospital cannot collect a fee if the patient does not wish to pay. His services are presumed to be in the interests of humanity.
>
> That was the effect of a ruling on file today in Municipal Judge Newcomb Condee's court in favor of Mrs. Bertha Jackson, 1306 North Kenmore Avenue.
>
> Mrs. Jackson was sued by T. M. Furst and D. S. Rathbun, acting for Dr. Paul A. Bulpitt, 327 Wilshire Boulevard, Santa Monica. Doctor Bulpitt sought to collect a bill for emergency treatment rendered Mrs. Jackson in his office after she had been injured in an automobile accident.
>
> She refused to pay on the grounds she was unconscious at the time and did not engage the physician to care for her.

New York Polyclinic Medical School and Hospital. At a meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital, held on Monday, October 7, the following program was presented:

"The Inhibiting of Thyroid Activity to Control Heart Disease" by Drs. Edmund Horgan and James Alexander Lyon of Georgetown University, Washington, D. C. The discussion was opened by Drs. Richard Lewisohn and Robert Emery Brennan.

"Transthoracic Electrocardiography — The Theory and Clinical Application of the New Electrocardiographic Methods" by Dr. Albert S. Hyman, Witkin Foundation, New York. The discussion was opened by Drs. Louis F. Bishop, Jr., Joseph B. Wolffe, and Harold E. B. Pardee.

Members of the Clinical and Surgical Association of Massachusetts were guests of the New York Polyclinic Medical School and Hospital on Tuesday and Wednesday, October 8 and 9. The members of this society visit medical schools each year, and this year came to the New York Polyclinic Hospital, where a special program was presented.

The Pacific Institute of Tropical Medicine—Lectures by Dr. N. Hamilton Fairley of London.—Dr. N. Hamilton Fairley of London, secretary of the Royal Society of Tropical Medicine and Hygiene, O. B. E., M. D. (Melbourne), M. R. C. P. (London), D. T. M. and H. (Cambridge), Lieutenant-Colonel, Australian Army Medical Corps, formerly lecturer on parasitology, Egyptian University.

Doctor Fairley will give three lectures in San Francisco: November 13, Wednesday, at 8 p. m., at the County Medical Society, 2180 Washington Street. His subject will be "The Present Status of Blackwater Fever and a Review of the Ceylon Epidemic of Malaria."

November 14, Thursday evening, he will speak at a dinner meeting of the Pasteur Society at the Western Women's Club on the subject, "Snake Bite and Venoms."

November 15, Friday, he will speak at 12 noon in Toland Hall, University of California Hospital, on the subject, "Serum Reactions in Helminthic Disease."

Reservations for the Pasteur Society dinner will have to be made ahead with Miss Margaret Beattie, University of California, Berkeley.

Doctor Fairley is an outstanding leader in tropical medicine in the British Empire, both in research and in clinical practice. His visit to the United States is at the invitation of the American Society of Tropical Medicine meeting in St. Louis November 20-22, and of the Pacific Institute of Tropical Medicine of the University of California.

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* See also editorial comments concerning this item, on page 325.

Southern California Medical Society: Meets on November 29-30.—The ninety-third semi-annual meeting of the Southern California Medical Association will be held in Los Angeles at the County Medical Building, 1925 Wilshire Boulevard, on Friday, November 29, and Saturday, November 30.

This meeting will be limited entirely to scientific sessions and an excellent program is being arranged, including guest speakers from other states.

Professor Houssay to Lecture.—Professor B. A. Houssay, professor of physiology and director of the physiologic institute in Buenos Aires, Argentina, is expected to arrive in San Francisco on or about December 7. He will give a number of lectures in Boston, New York, and Cleveland before arriving on the Coast. Professor Houssay will lecture at Stanford University, December 7 at 10 a. m., and in Lane Hall, Stanford University School of Medicine, on December 9 at 1:30 p. m. Subject: "Hypophysis and Resistance to Infection, Intoxication and Cancer." He will also give lectures at the University of California Medical School and before the California Academy of Medicine on December 14, and in Portland, Los Angeles, and San Diego between December 15 and 20, before returning East. Professor Houssay is noted for his investigations of the endocrines, especially the pituitary gland, and many other physiologic subjects.

Health Officers' Section, League of California Municipalities.—The 1935 session of this organization was held at San Francisco, September 23 to 26, with the following three-day program:

Monday, September 23

Auditorium, San Francisco Department of Public Health

9 a. m.

Registration.
Address of welcome.
Response.
President's address
Report of secretary.

2 p. m.

Presiding, Dr. Herbert F. True, President, Health Officers' Section.

Snake Venoms and Insect Bites—Dr. Tracy I. Storer, Department of Zoölogy, University of California College of Agriculture, Davis. Dr. Chauncey D. Leake, Department of Pharmacology, University of California Medical School in San Francisco, discussant.

Rabies—Dr. J. L. Pomeroy, Health Officer, Los Angeles County. C. R. Schroeder, D. V. M., Pathologist, Zoölogical Society of San Diego, discussant.

Relapsing Fever—Dr. Edwin B. Godfrey, Health Officer, San Bernardino County. Dr. C. L. Emmons, City Health Officer, Ontario, discussant.

Coccidioidal Granuloma—Dr. H. E. Miller, University of California Medical School, San Francisco. Dr. E. C. Dickson, Stanford School of Medicine, San Francisco, discussant.

Public Health Aspects of Gonococcus Infections—Dr. H. M. Elliott, Director, Venereal Disease Divisions, City Health Department, Los Angeles. Dr. Lee A. Stone, County Health Officer, Madera, discussant.

Tuesday, September 24

Auditorium, San Francisco Department of Public Health

9 a. m.

Presiding, Dr. John L. Pomeroy, Health Officer, Los Angeles County.

Joint session with California Association of Dairy and Milk Inspectors.

New Legislation Governing Milk—Nelson E. Clemens, D. V. M., City Health Officer, Hayward. Dr. H. C. Brown, City Health Officer, San Jose, discussant.

Physical Examination of School Children—Dr. R. C. Main, Health Officer, Santa Barbara County. Dr. E. F. Reamer, Health Officer of Stanislaus County, discussant.

Public Health Nursing—Miss Naomi Deutsch, Associate Professor, University of California, Department of Hygiene, Berkeley. Miss Ernestine Schwab, San Francisco Health Department, discussant. Mrs. Mary Ann Hawthorne, Supervising Nurse, Sacramento City Health Department, discussant.

Swimming Pools—Mr. Louis Olsen, City Health Officer, Palo Alto. Mr. W. F. Ingram, Sanitary Engineer, San Joaquin County, discussant.

Air Conditioning—Dr. Walter B. Coffey, Chief Surgeon, Southern Pacific Hospital, San Francisco.

2 p. m.

Presiding, Dr. Alex M. Lesem, Vice-President, Health Officers' Section.

Raw Food Control—Dr. R. M. Fortier, Health Officer of Monterey County. Dr. N. N. Ashley, City Health Officer, Oakland, discussant.

Research in Food Poisoning—Dr. R. V. Stone, Director of Laboratories, Los Angeles County. Dr. J. C. Geiger, City Health Officer, San Francisco, discussant.

Immunization in Poliomyelitis—Dr. George M. Stevens, First Assistant Health Officer, Los Angeles. Dr. P. J. Cuneo, City Health Officer, Bakersfield, discussant.

Diphtheria Immunization—Dr. C. M. Burchfiel, Health Officer, Santa Clara County. Dr. Edward B. Shaw, Children's Hospital, San Francisco, discussant.

Demonstration of Diphtheria Immunization—By the San Francisco Department of Public Health, Dr. J. C. Geiger, Director.

6 p. m.

Banquet—Health Officers' Section. Speaker: Dr. Robert G. Sproul, President, University of California, Berkeley.

* * *

Wednesday, September 25

Auditorium, San Francisco Department of Public Health

9 a. m.

Presiding, Dr. C. M. Burchfiel, Health Officer, Santa Clara County.

A County Sanitary Privy Program—Dr. Warren F. Fox, County Health Officer, Imperial County. Dr. W. A. Powell, Health Officer, Contra Costa County, discussant. Dr. W. F. Stein, Health Officer, Fresno County, discussant.

Public Health Vital Statistics — Eschscholtzia Lucia, Ph.D., Assistant Professor of Biometry, University of California. Dr. Frank L. Kelly, Health Officer of Berkeley, discussant. Dr. W. P. Shepard, Assistant Secretary, Metropolitan Life Insurance Company, San Francisco, discussant.

Relationship of County Hospitals to County Health Departments—Dr. Joe Smith, Health Officer, Kern County. Dr. Jacques P. Gray, Assistant Director of Public Health, San Francisco, discussant.

Psittacosis—Dr. C. T. Roome, City Health Officer, Santa Barbara. Dr. K. H. Sutherland, Health Officer, Orange County, discussant.

Selvatic Plague—Dr. W. E. Coppedge, Health Officer, Modoc County. Dr. Elmo R. Zumwalt, Health Officer, Tulare County, discussant.

2 p. m.

Demonstrations at Hooper Foundation for Medical Research, Dr. Karl F. Meyer, Director.

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Thursday, September 26

Civic Auditorium, San Francisco

9 a. m.

General session, League of California Municipalities.
Auditorium, San Francisco Department of Public Health

2 p. m.

Business session.
Report of Resolutions Committee.
Report of Nomination Committee.
Election of officers.
Adjournment.

Dinitrophenol.—Blindness from the use of dinitrophenol for reducing weight has not stopped the use of the drug on spite of repeated warning, says W. G. Campbell, Chief of the Federal Food and Drug Administration.

The eye cataracts observed in dinitrophenol poisoning develop with a rapidity and malignancy hitherto unknown, and result in total blindness within a comparatively short time. This drug may produce acute poisoning, the symptoms of which are nausea, stomach and intestinal distress, sweating, flushed skin, high fever, rapid breathing, and muscular rigor followed by death. The drug also damages the liver, kidneys, heart, and sensory nerves. It produces agranulocytosis, a blood disorder also noted in cases of poisoning with amidopyrin, a common ingredient of medicines for the relief of pain.

The Food and Drugs Act, according to Mr. Campbell, is practically inoperative against this public health hazard. He says, "The only application of the law to these products is through some misstatement of fact or some false and fraudulent curative claim in the labeling. In any event, the law can be invoked only when the product has been transported across a state line."

"There is little doubt," continues Mr. Campbell, "that the cases of progressive blindness recently reported in California are the result of medication with dinitrophenol. It is to be regretted that the present federal law is silent with respect to the control of dangerous drugs."

Of all the products containing dinitrophenol now on the market, only one has been confiscated under the Food and Drugs Act, the Administration reports. That was "Slim," against which legal action was brought because of label claim that it was "safe to use," whereas medical opinion is unanimous to the contrary. This proceeding was approved by Mr. Campbell, who states that in the absence of affirmative control over dangerous drugs, and to achieve one of the essential objects of the Food and Drugs Act—the protection of the public health—it is the purpose of the Administration to take advantage on any available legal technicality in proceeding against all products containing dinitrophenol. This, he points out, is contrary to the usual practice of the Administration in enforcing the Food and Drug Act.

Dinitrophenol is sold under many fanciful names sometimes accompanied by a statement of the presence of the drug itself. Some of the names under which it has been or is now being sold are reported by the Food and Drug Administration as follows: Nitromet, Dinitrolac, Nitra-Phen, Dinitrise, Formula 281, Dinitrose, Nox-Ben-01, Re-Du, Aldinol, Dinitrenal, Prescription No. 17, Slim, Dinitrole, Tabolin, and Redusols.

"It is interesting to note," said Mr. Campbell, "that all the so-called reducing preparations on the market fall into three categories: first, laxatives that deny the body the benefit of its food intake, as the salts, crystals, and herb teas; second, obvious frauds that depend for effect upon the stringent diets prescribed as part of the 'treatment,' as 'Syl-Vette' and 'Stardom's Hollywood Diet'; and third, the unquestionably effective but dangerous articles containing thyroid or dinitrophenol, both of which act by speeding up the utilization of food. All of them are unwarranted impositions upon the public, which cannot evaluate claims made for the preparations, and cannot readily appreciate the harm that may result from careless use of the products.

Predicts Law Will Benefit Thirty Millions.—President Roosevelt recently signed the long-awaited Social Security Bill, which he hailed as "historic for all time," and, for the first time in history, the United States has a federal system of old-age pensions and unemployment insurance, according to Universal Service.

President Roosevelt predicted that its benefits will be felt by thirty million Americans and that it will provide at least partial protection against the shock of future economic depression. . . .

Besides retirement annuities, the bill provides a maximum federal pension grant of $15 a month for individuals of sixty-five years and over, to be matched by like contributions by the various states. A payroll tax of 3 per cent is also provided to defray the basic cost of unemployment compensation.

The President, in signing the bill, said:

"Today, a hope of many years' standing is in large part fulfilled. The civilization of the past hundred years, with its startling industrial changes, has tended more and more to make life insecure. Young people have come to wonder what would be their lot when they came to old age. The man with a job wondered how long the job would last.

"This social security measure gives at least some protection to thirty million of our citizens.

"We can never insure 100 per cent of the population against 100 per cent of the hazards and vicissitudes of life, but we have tried to frame a law which will give some measure of protection to the average citizen against the loss of a job and against poverty-ridden old age."

American Medical Association Directory of Licensed Physicians.—The work of revising and compiling the new fourteenth edition of the American Medical Directory has been started. A letter from American Medical Association headquarters states:

After every directory is published we receive a number of complaints from physicians who have not been listed as members or fellows of the American Medical Association. Some of these men have possibly lost appointments with industrial firms, insurance companies, railroads, etc., because they were not indicated as members. They may have been members and let their membership lapse, or new men in the community who failed to join their local society in time to indicate this information in the directory.

To eliminate such criticism, we are asking secretaries of state medical societies and editors of state medical journals to coöperate in notifying all delinquents and eligible applicants that a new directory is going to be published. It would aid greatly if a notice were placed in your publication, calling to the attention of your readers the importance of sending in their data promptly when requested and the keeping up of their membership in your society.

It will probably be two years or 1938 before another directory will be issued.

Notice to Laboratory Directors Concerning the New Laboratory Law.—Under the provisions of Chapter 638, Statutes of 1935, all clinical laboratories not exempted by law must be under the direct supervision of a licensed physician and surgeon or of a licensed clinical laboratory technologist.

Any person, not a physician, who has been engaged continuously in the *work* and *management* of a clinical laboratory, either as owner or director, for a period of not less than five years immediately preceding September 15, 1935, the date the law becomes effective, the last year of which has been in the State of California, is eligible to receive a license without examination. All such persons should apply to the State Bureau of Laboratories, Berkeley, California, for application forms.

All clinical laboratory directors who are not licensed physicians and surgeons and who cannot qualify under the foregoing must take an examination to secure the technologist's license, failing which, they may not continue as director of the laboratory, but must, if the owner thereof, employ another who is licensed by law to conduct a clinical laboratory.

An examination for clinical laboratory technologists will be held in the near future and all laboratory directors who need to take this examination should apply at once for application forms.

Licensed physicians and surgeons who conduct clinical laboratories and who receive work pertaining to patients other than their own, must secure a permit for each laboratory. Application for forms to be used in requesting a permit should be sent in without undue delay.

University of Southern California. — The opening lecture of the School of Medicine of the University of Southern California was given by Dr. Rufus B. von KleinSmid, president of the University of Southern California, on Thursday, September 26, at 11 a. m., in the Auditorium of the Los Angeles County Hospital. The lecture was well attended.

One Hundred Volunteer for Sterilization at San Quentin.—International News Service prints:

> Within a month Dr. L. L. Stanley, resident physician at San Quentin prison, will start sterilization operations upon approximately one hundred prisoners who have volunteered to submit to the operation, Doctor Stanley said recently.
>
> Doctor Stanley received word from Attorney-General U. S. Webb that California has no law prohibiting surgical operations for sterilization of convicts.
>
> "I posted a notice on the bulletin board offering to sterilize any inmate who volunteered," Doctor Stanley said. "Already more than one hundred have signed up. I believe the health of the men will be improved by the operations."

Chiropractors' Suit Is on Trial.—The San Francisco *Chronicle* recently used the above heading for the following item:

> To determine just how far a chiropractor may go beyond spine manipulation in the healing art, hearing of a friendly suit instituted by Dr. M. J. McGranaghan against Dr. Dora Berger, chiropractors of different schools, was begun yesterday before Superior Judge John J. Van Nostrand.
>
> Doctor McGranaghan seeks an interpretation of Section 7 of the act governing the practice of chiropractic. He contends he is within his rights in using medicine and other aids in his practice. Doctor Berger represents the opposite school.
>
> Interested observers were Deputy Attorney-General Lionel Browne, and Dr. Charles B. Pinkham of the State Medical Board.

Durie to Direct Hospital Meeting.—The Association of Western Hospitals, covering eleven states, has selected San Francisco as its convention city for the second year in succession. Approximately 1,600 delegates are expected to attend the meeting, which is the most outstanding of the year in western hospital circles. The next convention will be held in the week of April 20, 1936. The last meeting was in February of the present year.

In anticipation of the meeting, the Association has named S. F. Durie, superintendent of the University of California Hospital, as chairman of the convention Executive Committee. Superintendent Durie served in the same capacity for the 1935 meeting.

New Policy of the American Medical Association Council on Medical Education.—A business meeting of the Council on Medical Education and Hospitals was held at the Brown Palace Hotel, Denver, September 15, 1935.

According to the minutes the survey of American medical schools so far completed has revealed certain significant weaknesses, namely:

There is a tendency for medical schools to enlarge their enrollment without a corresponding increase in personnel or instructional facilities.

With a growing appreciation of the necessity for an intimate correlation between clinical and laboratory knowledge, it is evident that this can be obtained only by increasingly close contact between preclinical and clinical departments continuously maintained from the time the student first enters the medical school until he graduates.

The advances of the medical sciences have been and should be independent of any sectarian point of view, and medical education should not be handicapped or directed by a dogmatic attitude toward disease.

For these reasons the Council took the following action:

(a) *Resolved,* That in each medical school the number of students should not exceed the number that can be adequately taught with the laboratory, library, and clinical facilities available and for whom a sufficiently large and competent teaching staff is provided.

(b) *Resolved,* That after July 1, 1938, the Council on Medical Education and Hospitals will no longer publish a list of approved two-year medical schools.

(c) *Resolved,* That after July 1, 1938, the Council on Medical Education and Hospitals will no longer carry on its approved list schools of sectarian medicine.

California Industrial Accident Commission.—During the period of time from July 1, 1930, to and including December 31, 1932, original claims to the number of 15,231 were filed with this Commission. During the period from January 1, 1933, to and including June 30, 1935, original claims to the number of 15,412 were filed. This shows an increase in filing of original claims of 181 during the period from January 1, 1933, to and including June 30, 1935, over a corresponding period of time from July 1, 1930, to and including December 31, 1932.

During the period of time from July 1, 1930, to and including December 31, 1932, decisions in original claims were rendered in 15,142 claims or cases. From January 1, 1933, to and including June 30, 1935, decisions in original claims were rendered in 15,256 claims. This indicates an increase in the number of original decisions during a corresponding period of time, to the extent of 114.

University of California Medical School: Address by B. A. Houssey.—Dr. B. A. Houssey of Buenos Aires will address the students and members of the staff of the University of California Medical School at 9 a. m., on Wednesday, December 11, in Toland Hall, University of California Hospital, on the subject, "Antidotes of Cyanide Intoxication."

LETTERS

Concerning report of reactions in "Concentrated Epinephrin by Inhalation for the Relief of Attacks of Bronchial Asthma."

To the Editor:—Since the publication of my article * on "Concentrated Epinephrin by Inhalation for the Relief of Attacks of Bronchial Asthma," I have received many personal communications from physicians describing severe reactions to this therapy.

These reactions are in the form of dryness and pains in the mouth, pains in the throat, and acute abdominal cramps. Also general symptoms of weakness, lassitude, and faintness.

I am of the opinion that these symptoms are due to the absorption of drops of concentrated epinephrin, these having been deposited in the mouth and throat.

I would like to take this opportunity to warn physicians that the apparatus used for inhalation therapy should be tested by directing a spray against a mirror, and that only such apparatus be used that will not deposit drops.

This will avoid exposing the patient to the hazard of concentrated epinephrin drops and at the same time effecting a saving in the amount of solution used. The essential feature is the inhalation of vapor and not a deposition of drops which cannot be inhaled.

Edward Matzger, M. D.

Concerning sylvatic plague.

To the Editor:—By action of the Western Branch of the American Public Health Association at its sixth annual meeting at Helena, Montana, the first part of July, the president, Dr. W. F. Cogswell, was authorized to appoint a special Committee on Sylvatic Plague. As you probably know, plague has become an increasingly serious problem in the West; there is every reason to believe that the disease now exists in various rodents besides squirrels, and in the states of Oregon, Nevada, Washington, Montana, Idaho, and

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* The article was printed in the September, 1935, issue of California and Western Medicine, on page 226.

Wyoming, in addition to California. Selections for this committee were made by Doctor Cogswell with the generous coöperation of Dr. K. F. Meyer, Medical Director, Hooper Foundation for Medical Research, Parnassus and Third avenues, San Francisco, at whose suggestion the aforementioned action was taken. The committee is as follows:

Dr. K. F. Meyer, chairman.
Dr. William Levin, Director of Laboratories, State Department of Health, 816 Oregon Building, Portland, Oregon.
Dr. E. R. Coffey, State Health Officer, 1504 Alaska Building, Seattle, Washington.
Dr. A. U. Simpson, Epidemiologist, State Department of Health, 1504 Alaska Building, Seattle, Washington.
Dr. E. E. Hamer, State Health Officer, Carson City, Nevada.
Dr. W. F. Cogswell, State Health Officer, Helena, Montana.
Dr. George M. Anderson, State Health Officer, Cheyenne, Wyoming.
Dr. C. R. Eskey, United States Public Health Service, Marine Hospital, San Francisco.
Dr. J. L. Jones, State Health Commissioner, Salt Lake City, Utah.
Mr. Fred D. Stimpert, Director, State Hygienic Laboratory, Helena, Montana.
Mr. Lawrence J. Peterson, Bacteriologist, State Department of Public Welfare, Boise, Idaho.
Mr. E. T. Ross, Chief Sanitary Inspector, State Department of Public Health, State Building, San Francisco.
Mr. I. M. Gabrielson, Regional Director, United States Biological Survey, 404 United States Courthouse, Portland, Oregon.
Mr. W. E. Nelson, United States Forest Service, 85 Second Street, San Francisco.
Mr. W. C. Jacobsen, Supervisor, Rodent and Weed Control, State Department of Agriculture, Sacramento.
Mr. Fred Cronemiller, Chief, Division of Wild Life and Range Management, United States Forest Service, Phelan Building, San Francisco.

W. P. Shepard, *Secretary.*

Concerning a drugless school of healing and its methods.

To the Editor:—The enclosed will give you an idea how they juggle articles of incorporation relating to corporations professing to teach some system of the healing art.

C. B. Pinkham, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

State of California
Department of State
Sacramento

September 28, 1935.

State Board of Medical Examiners,
420 State Office Building,
Sacramento, California.

Gentlemen:

Replying to yours of the 26th inst. we advise that our records disclose the following:

"American Health, Aged, Employment and Endowment Association" (a California corporation) incorporated June 25, 1917; principal place of business, Los Angeles, California; changed its name on March 9, 1934 to "American Health Association, Inc."

This corporation's corporate number is 84748, and it is in good standing on our books to date.

For your information we advise that at the date (January 13, 1934) we informed you we could not find any record of a corporation by the name "American Health Association, Inc.," on our books, the abovenamed corporation had not changed its name. Said change did not take place until March 9, 1934.

We are sending a copy of this letter to this corporation in order that it may be advised of our record.

Sincerely yours,
Frank C. Jordan,
Secretary of State.
By (Signed) A. A. Brewer.

420 State Office Building
Sacramento, California,
October 7, 1935.

American Health Association, Inc.,
631 South Vermont Avenue,
Los Angeles, California.

Attention: George Floden, D. D.

Gentlemen:

This will acknowledge receipt of your letter of September 27, 1935, advising us that the American Health, Aged, Employment and Endowment Association, chartered June 25, 1917, on March 9, 1934, changed its name to the "American Health Association, Inc." Your letter relates: "The major endeavor of our institution is to teach physical and mental hygiene, scientific Swedish massage (Ling's system), colon therapy, etc., and we are particularly anxious to qualify our students for doctors' aids. . . ."

Under date of January 19, 1934, our Los Angeles Investigation Department reported that "the only licensed M. D. is paid a salary of $10 per week, and as far as we can ascertain most of the teaching (in the American Health Association, Inc.) is done by Esther Berson, who is a masseuse. . . ." Said report refers to an advertisement published in the Los Angeles Swedish newspapers, headed "College of Drugless Healing," offering day or evening classes at a moderate fee payable on the installment plan. Said advertisement also shows the statement, "Authorized Diploma." Said advertisement also assertedly offered free medical examination, medicine at half price, clinical treatments at half price, etc., for "yourself and any member of your family" at "One Dollar per month." Said report also relates, "George Floden formerly operated a similar institution under the name of Beaux Arts Physio-Therapy Clinic, in the Beaux Arts Building, 1709 W. Eighth Street, Los Angeles . . . ," where, we understand, for a fee of $100 a complete course of training would be given in Swedish massage, medical gymnastics, electro- mechanotherapeutics, hydrotherapeutics, anatomy, hygiene, dietetics, bacteriology, physiology, pathology, and chemistry.

We are wondering if your attention has been called to Chapter 666, Statutes 1935, relating to educational institutions that issue certificates, transcripts, or diplomas.

Very truly yours,
C. B. Pinkham, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

Concerning broadcasts under the auspices of the San Francisco County Medical Society.

October 9, 1935.

To the Editor:—Subsequent to the approval of the Board of Directors of the San Francisco County Medical Society of the new radio program, further arrangements were completed and I am notifying you of the schedule and plans.

Beginning next Tuesday, October 15, over KYA at 6 to 6:15 and every Tuesday thereafter, I shall broadcast under the auspices of the San Francisco County Medical Society in a fifteen-minute broadcast, entitled "Science Edits the News." I shall not be able to give the subjects in advance for publication in the Journal because the subjects will probably be taken from current news of the day, shortly before the broadcast. I have asked the other members of the committee to carry on the regular broadcasts until November 1 that are already scheduled on our present program.

We are assured of having sponsors for this program at an early date. Naturally those seeking sponsorship will have to be approved by the Board of Directors when the occasion arises. This sort of program holds great possibilities principally in the good we can do to promote honest, ethical medicine, while cracking down on quackery and charlatanism. We shall be the first unit of the American Medical Association, except that body itself, to launch such a program. . . .

I would appreciate it if a monthly announcement calling attention to these broadcasts can be kept in the Journal, even though no titles are available. . . .

Yours sincerely,
H. M. F. Behneman, M. D.

Concerning American Medical Association leaflets on "Reliable Apparatus" and "Extension Education in Physical Therapy."

To the Editor:—We have noted that the September issue of your journal contains both the Council [A. M. A.] article "Reliable Apparatus" (page 241) and "Extension Education in Physical Therapy."

It might interest you to know that already we have sent seven copies of our pamphlet on apparatus to physicians who read of it in your journal.

The Council appreciates your graciousness and valued coöperation in publishing these two article.

Very truly yours,
Howard A. Carter,
Secretary, American Medical Association Council on Physical Therapy.

Concerning the editorial on "Major Disasters," printed on page 178 of the August issue. A letter from Hon. Frank L. Shaw, Mayor of Los Angeles.

To the Editor:—May I take this opportunity to thank you for your courtesy in sending me a copy of the September number of California and Western Medicine, in which is included your very splendid article on the Los Angeles Major Disaster Emergency Council.

I am sure such worthy comment, coming from one of our most widely recognized and respected medical journals, will go a long way toward stimulating public interest not only in Los Angeles, but also in other cities, in the plan that has been adopted here in Los Angeles for meeting a major disaster, should our city be so unfortunate as to be visited by one.

Personally, I feel the community has made a most progressive step forward in evolving this plan in that it recognizes frankly the possibility of disaster and wisely provides a means of coöperation and method of operation by which the community may exert its best efforts to meet the exigencies of any calamity that might occur.

The enthusiastic coöperation which the plan has received from the medical profession is deserving of the highest commendation and bespeaks well the fine sense of civic service and the spirit of self-sacrifice which have always motivated the members of the medical and nursing professions in discharging their responsibilities to society. That the plan has made a distinct impression throughout the country is evidenced by the fact that large numbers of inquiries have been received requesting information regarding the plan and its methods of operation.

Again thanking you for your courtesy and with warmest compliments and kindest personal regards, I am

Very sincerely yours,
Frank L. Shaw, *Mayor.*

Concerning care of nurses suffering from sequelae of poliomyelitis (1934 Los Angeles outbreak).

The following communication has been received from district five of the California State Nurses' Association:

* * *

(Copy)

October 5, 1935.

Subject: Nurses receiving compensation who are housed in institutions other than the general hospital.

Mr. Herbert C. Legg, Chairman,
Board of Supervisors for Los Angeles County,
Los Angeles, California.

Dear Sir:

Because of repeated complaints received in this office concerning the medical and hospital care received by members of this Association who are ill with poliomyelitis as a result of the 1934 epidemic, and who are receiving compensation under the terms of the California Industrial Compensation Act, a special committee was appointed to make investigations and to report to our Board of Directors.

The results of the investigations clearly show that many of the complaints are justified. It was found that in some cases the institution where these sick nurses are housed has wholly inadequate facilities for providing nursing, physiotherapy, or other necessary care. In most instances it was discovered that such medical care as is being provided is not given by men who are prepared to give orthopedic supervision. Other conditions such as nervous and mental symptoms which are common to poliomyelitis appear to be receiving little attention.

The whole situation is one which merits immediate attention of the Board of Superevisors of Los Angeles County.

The Board of Directors of the California State Nurses' Association, district five, at their meeting October 3, 1935, voted unanimously to approach the Board of Supervisors of Los Angeles County to inform them of these conditions, and to ask consideration of the following recommendations:

1. That each member of our Association, ill with poliomyelitis and receiving compensation, be placed under the care of an orthopedic surgeon approved by the Western Orthopedic Association.
2. That conditions or symptoms arising out of, or as the result of, this illness be given such attention as shall be deemed advisable by the orthopedic surgeon in charge of the case.
3. That hospital care be provided only in institutions which are in a position to furnish such personnel and equipment as may be deemed necessary and sufficient by an approved orthopedic surgeon.

The Board of Directors of the California State Nurses' Association, district five, further stipulated that the County Medical Association be informed of our action in the matter and their coöperation requested, and that copies of this communication be sent to the following:

Each County Supervisor; Dr. John Pomeroy, County Health Officer; Dr. Phoebus Berman, Medical Director, Los Angeles County General Hospital; Dr. George Parrish, City Health Officer; Los Angeles County Medical Association; Doctor Ruddock, Chairman of the Poliomyelitis Committee; Doctor Young, President, Local Chapter, Western Orthopedic Association; and Public Welfare Commission.

We are sure that the Supervisors of Los Angeles County are interested in the welfare of these women who are their charges. A great deal of concern has been engendered regarding their condition, not only among the 2,400 members of the local district of the State Nurses' Association, but also on the part of many persons outside the nursing profession. This matter is of such vital importance that we feel justified in urging your careful and immediate attention.

Yours very sincerely,
The California State Nurses' Association, Inc.,
Discrict Five.
By Helen D. Halvorsen, R. N., *President.*

Concerning coroner and medical examiner system articles, printed in October issue, on pages 274 and 275.

The Institute of Medicine of Chicago

October 8, 1935.

To the Editor:—I have read the paper by Doctor Carr on the coroner's system and also the comments on the paper by Dr. Oscar T. Schultz. I find myself in complete agreement with Doctor Schultz's comments. Perhaps I should add that in some states, of which Illinois is one, the constitution provides for the election of a coroner in each county, and that consequently no radical change can be made in the coroner's system in those states without changes in the constitution. In Chicago, for instance, no such change could be made in the conduct of the coroner's office as has been done in San Francisco. The conduct of the office rests entirely with the coroner, and the standards will vary from coroner to coroner. I think it is fair to say that under the coroner's system it is impossible for the public to obtain the full service that medical science can give in medicolegal matters.

637 South Wood Street.

Yours very truly,
Ludvig Hektoen, M. D.

Concerning an out-of-state corporation: See October issue, pages 316 and 319.

San Francisco, California,
October 14, 1935.

Re: W. B. Mayo Laboratories, Inc.

To the Editor:—Supplementing the information published in the October issue of CALIFORNIA AND WESTERN MEDICINE, re Dr. W. B. Mayo Laboratories, Inc., thought you would be interested in the following letter from the State of Oregon, Corporation Department, Salem:

October 10, 1935.

Dr. C. B. Pinkham, Secretary-Treasurer,
Board of Medical Examiners,
450 McAllister Street,
San Francisco, California.

Dear Sir:

Your letter of October 7, addressed to the Secretary of State of Oregon, has been referred to this department.

There is an Oregon corporation by the name of Dr. W. B. Mayo Laboratories, Inc., which filed articles of incorporation April 30, 1934, and the location thereof is given as Medford, Oregon.

The incorporators were Dr. Richard Kindsley, C. Ray Gilliland, and Allison Moulton; and the 1934 report shows the following officers and capital stock:

C. Ray Gilliland, president-treasurer, Medford, Oregon.
Frank Kerwin, secretary, Medford, Oregon.
Capital stock, $100,000.

This corporation is not in good standing, as a report was not filed for the fiscal year which ended June 30, 1935, nor has the annual license fee been paid for the present fiscal year ending June 30, 1936, and the same became delinquent August 15.

Yours very truly,
(Signed) CHARLES H. CAREY,
Corporation Commissioner.

Very truly yours,
CHARLES B. PINKHAM, M. D.,
Secretary-Treasurer.

SPECIAL ARTICLES

UNITED STATES SUPREME COURT RULING ON UNPROFESSIONAL ADVERTISING.*

A recent United States Supreme Court decision on unprofessional advertising is as follows:

Harry Semler, Appellant, vs. Oregon State Board of Dental Examiners, L. A. Rosenthal, Leonard R. Andrews, et al., etc.

Constitutional Law, Sec. 214—what constitutes impairment of contracts—exercise of police power.

1. The obligation of contracts is not unconstitutionally impaired where interference with their performance is a result of a proper exercise of the police power.

Constitutional Law, Sec. 407—equal protection—regulation limited to dentists.

2. A law making the use of certain types of advertising ground for revocation of a license to practice dentistry is not unconstitutionally discriminatory because it does not extend to other professional classes.

Constitutional Law, Sec. 668—due process—regulation of practice of dentistry.

3. The State may, consistently with the requirement of due process, regulate the practice of dentistry, prescribing the qualifications that are reasonably necessary, and to that end may require licenses and establish supervision by an administrative board.

Constitutional Law, Sec. 668—due process—prohibition of certain type of advertising by dentists.

4. A statue making it ground for the revocation of a license to practice dentistry, to advertise professional superiority or prices for professional service, or by means of large display, glaring light signs, or containing as a part thereof the representation of a tooth, teeth, bridge work, or any portion of the human head, or to advertise free dental work, or free examination, or to guarantee any dental service or to perform any dental operation painlessly, does not amount to such an arbitrary interference with liberty and property as to violate the requirement of due process of law, even though it may operate to prohibit advertising in particular instances in which there is no deception or misstatement.

[No. 538]

Argued March 7, 1935. Decided April 1, 1935

Appeal by plaintiff from a decree of the Supreme Court of the State of Oregon affirming a decree of the Circuit Court, Multnomah County, dismissing a suit to enjoin enforcement of a statute providing for revocation of dentists' licenses because of the character of their advertising. Affirmed. . . .

Mr. F. S. Senn of Portland, Oregon, argued the cause for appellant.

The court declined to hear further argument.

Mr. Chief Justice Hughes delivered the opinion of the court.

This case presents the question of the validity of a statute of the State of Oregon, enacted in 1933, relating to the conduct of dentists. Oregon Laws 1933, Chapter 166. Previous legislation had provided for the revocation of licenses for unprofessional conduct, which, as then defined, included advertising of an untruthful and misleading nature. The Act of 1933 amended the definition so as to provide the following additional grounds for revocation:

"advertising professional superiority or the performance of professional services in a superior manner; advertising prices for professional service; advertising by means of large display, glaring light signs, or containing as a part thereof the representation of a tooth, teeth, bridge work or any portion of the human head; employing or making use of advertising solicitors or free publicity press agents; or advertising any free dental work, or free examination; or advertising to guarantee any dental service, or to perform any dental operation painlessly."

Plaintiff, a dentist practicing in Portland, Oregon, brought this suit in the state court against the members of the State Board of Dental Examiners to enjoin the enforcement of the statute, alleging that it was repugnant to the due process and equal protection clauses of the Fourteenth Amendment, and impaired the obligation of contracts in violation of Section 10, Article 1, of the Constitution of the United States. The circuit court, overruling this contention, sustained a demurrer to the complaint and, upon the refusal of plaintiff to plead further, the suit was dismissed. On appeal, the Supreme Court of the State took the same view of the federal question and affirmed the judgment. —— Or. ——, 34 P. (2d) 311. The case comes here on appeal.

Plaintiff alleged in his complaint that he was licensed in 1918; that he had continuously advertised his practice in newspapers and periodicals, and by means of signs of the sort described in the amended statute, and that he had employed advertising solicitors; that in his advertisements he had represented that he had a high degree of efficiency and was able to perform his professional services in a superior manner; that he had stated the prices he would charge, had offered examinations of prospective patients without charge, and had also represented that he guaranteed all his dental work and that his dental operations were performed painlessly. He further alleged that the statements in his advertisements were truthful and were made in good faith; that by these methods he had developed a large and lucrative practice; that through long training and experience he had acquired ability superior to that of the great majority of practicing dentists; that he had been able to standardize office operations, to purchase supplies in large quantities and at relatively low prices, and thus to establish a uniform schedule of charges for the majority of operations; also that he had made contracts for display signs and for advertisements in newspapers, and had entered into other engagements of which he would be unable to take advantage if the legislation in question were sustained, and, in that event, his business would be destroyed or materially impaired.

Plaintiff is not entitled to complain of interference with the contracts he describes, if the regulation of his conduct as a dentist is not an unreasonable exercise of the protective power of the State. His contracts were necessarily subject to that authority. . . . Nor has plaintiff any ground for objection because the particular regulation is limited to dentists and is not extended to other professional classes. The State was not bound to deal alike with all these classes, or to strike at all evils at the same time or in the same way. It could deal with the different professions according to the needs of the public in relation to each. We find no basis for the charge of an unconstitutional discrimination. . . .

The question is whether the challenged restrictions amount to an arbitrary interference with liberty and property and thus violate the requirement of due process of law. That the State may regulate the practice of dentistry, prescribing the qualifications that are reasonably necessary, and to that end may require licenses and establish supervision by an administrative board, is not open to dispute. . . . The State may thus afford protection against ignorance, incapacity and imposition. . . .

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* See also editorial comments, on page 325.

We have held that the State may deny to corporations the right to practice, insisting upon the personal obligations of individuals . . . , and that it may prohibit advertising that tends to mislead the public in this respect. . . .

Recognizing State power as to such matters, appellant insists that the statute in question goes too far because it prohibits advertising of the described character, although it may be truthful. He contends that the superiority he advertises exists in fact, that by his methods he is able to offer low prices and to render a beneficial public service contributing to the comfort and happiness of a large number of persons.

The State court defined the policy of the statute. The court said that while, in itself, there was nothing harmful in merely advertising prices for dental work or in displaying glaring signs illustrating teeth and bridge work, it could not be doubted that practitioners who were not willing to abide by the ethics of their profession often resorted to such advertising methods "to lure the credulous and ignorant members of the public to their offices for the purpose of fleecing them." The legislature was aiming at "bait advertising." "Inducing patronage," said the court, "by representations of 'painless dentistry,' 'professional superiority,' 'free examinations,' and 'guaranteed' dental work" was, as a general rule, "the practice of the charlatan and the quack to entice the public."

We do not doubt the authority of the State to estimate the baleful effects of such methods and to put a stop to them. The legislature was not dealing with traders in commodities, but with the vital interest of public health, and with a profession treating bodily ills and demanding different standards of conduct from those which are traditional in the competition of the market place. The community is concerned with the maintenance of professional standards which will insure not only competency in individual practitioners, but protection against those who would prey upon a public peculiarly susceptible to imposition through alluring promises of physical relief. And the community is concerned in providing safeguards not only against deception, but against practices which would tend to demoralize the profession by forcing its members into an unseemly rivalry which would enlarge the opportunities of the least scrupulous. What is generally called the "ethics" of the profession is but the consensus of expert opinion as to the necessity of such standards.

It is no answer to say, as regards appellant's claim of right to advertise his "professional superiority" or his "performance of professional services in a superior manner," that he is telling the truth. In framing its policy the legislature was not bound to provide for determinations of the relative proficiency of particular practitioners. The legislature was entitled to consider the general effects of the practices which it described, and if these effects were injurious in facilitating unwarranted and misleading claims, to counteract them by a general rule even though in particular instances there might be no actual deception or misstatement. . . .

The judgment is affirmed.

Judgement affirmed.

PSITTACOSIS

The October issue of California and Western Medicine, on pages 252, 257 and 260 printed articles on psittacosis, reporting therein two Santa Barbara cases.

The San Francisco *Chronicle* of October 10 called attention to a San Francisco case in the following article:

Man Dies and Two Treated for Parrot Fever

Officials Ban Bird Sales to Halt Disease; "Bootleg" Bird Blamed

One death from psittacosis (parrot fever) and two suspected cases in those who attended the victim, were reported yesterday to Dr. J. C. Geiger, Director of Health, who took swift steps to confine the disease.

Vincent W. Ross, 308 Fell Street, is the victim. He died at San Francisco Hospital early yesterday and within a few hours his daughter, Isabel, twenty, was admitted to the isolation ward, suffering from a suspected case.

Dr. T. P. Bodkin, 679 Page Street, who attended Ross when he first became ill with the baffling disease, is also ill, but his case has not been specifically diagnosed.

Parrots in Home

Ross is believed to have become ill from two "unlicensed" parrots in his home. Doctor Geiger said Ross was employed at Buker's bird store, 1170 Market Street. The owners of the store denied Ross had been employed there. They declined to make a statement.

Doctor Geiger described Ross's birds as "bootlegged parrots." He said they are supposed to bear a small leg tag certifying that they have been inspected by the State Board of Health, but that one bird had no tag and the other wore a fake tag.

The birds were killed, but gave negative laboratory results for psittacosis.

Doctor Geiger yesterday issued an order clamping down on the sale of all parrots and parakeets in San Francisco. As a first move his inspectors visited all pet-stores and placed seals on the cages of the birds.

Rare Disease

The health director said that parrot owners need not fear their pets, especially if they have been tested, but that many illegal birds have been bootlegged from Southern California, which has been a focus of the disease in recent years.

Ross was entered at the San Francisco Hospital supposedly suffering from pneumonia. His quick death brought the suspicion of psittacosis, and his background confirmed it. Miss Ross's case was closely studied, and Doctor Geiger said if was established as parrot fever she would be given serum treatment. Doctor Bodkin was not seriously ill.

Psittacosis is communicable from animals to men, more rarely from one human to another. It has been sporadic in California for some years, but it is comparatively rare.

Doctor Geiger issued a request that all persons who have bought parrots or parakeets within the last thirty days to communicate at once with the Industrial Hygiene Department of the Department of Health.

DISCONTENTMENT OVER SOCIAL INSURANCE DEFICITS IN FRANCE

The social insurance law [in France] is now five years old, but from all sides come complaints that it has not proved to be the success that was expected. In attempting to balance its budget, the [French] government has planned to save 400,000,000 francs (about $25,000,000) annually through economies in the administration of the law. One of the members of the chamber of deputies has asked for an emergency revision of the law because the premiums that insured workers are obliged to pay are a burden hard to bear. More than 4,000,000,000 francs (about $250,000,000) is taken "out of the pockets of employers and employees every year and most of it is stowed away thésaurized) in the sinking funds of the various organisms of the law," according to this legislator. The premiums must be reduced in line with a general effort to lower the cost of living in France.

Finally, in the *Siècle Médical* of recent date appears an article entitled "a decisive change," which states that one of the chief objectives of the social insurance law, an effort to prevent disease by better sanitary organization of the country, is at last in the first stages of fulfilment. One is also much concerned about deficits in the budgets of the primary distributing agencies, or "caisses," of the social insurance law. These collect the premiums from the employers and employees and disburse benefits for illness, maternity cases and deaths. These "caisses primaires" insure themselves in a sort of central government agency termed the "Union of reassurance."

At a recent meeting of all of these reassurance societies it was found that the "caisses primaires" were in a bad way financially and that surely next year, if not already this year, there would be deficits.

These "caisses primaires" during 1930-1931 distributed only 40 per cent of their income, whereas in 1934 the proportion rose to 89.5 per cent. The average premium dropped from 70 francs ($3.75) a month in 1930-1931 to 63.7 francs in 1934, or about 10 per cent. This drop in revenue is more marked in the departments outside Paris than in the latter city. The reverse is true of the disbursements.

Out of 103 of the "caisses primaires" (primary collecting and distributing agencies) insuring 1,220,000 workers, thirty-nine are in deficit for sickness insurance, seventeen for maternity insurance and nineteen for death benefits. These financial difficulties will be combated in the future by the Reassurance Union lending money on more liberal and longer terms to the caisses primaires. As stated in previous letters, one of the drawbacks to the present social insurance law is the thésaurization, *i. e.,* keeping out of circulation vast sums of money by the central organizations which are constituted by the "Union of Reassurance" and by the "guaranty fund." The former is the custodian of sickness, maternity and death insurance premiums and the latter for old age insurance premiums.

These huge sums of money under the control of these "higher-up" links in the social insurance chain are not always wisely invested and there has been much open criticism of this feature of the law. The latter dates only from 1930 and it will be many years before those who are now paying for old age insurance will reach the age of 65 and demand reimbursement for sums paid in many cases over a period of from thirty to forty years. No secret is made of the criticism of the poor investments, entailing much loss of money, which have been made by the trustees of some of these funds.

The experiment in social insurance in France has been far less successful than was hoped or promised. The attitude of the medical profession is becoming more and more bitter in these days of crisis.—*Journal American Medical Association,* August 31, 1935.

DIET QUACKS DRAW FIRE

Fallacies Cited by Experts

Milwaukee, October 8.—(A.P.)—"Acidosis" was branded as nutritional quackery in a report today by a committee on nutritional problems submitted to the American Public Health Association.

The committee report also held that feeding the whites of raw eggs to invalids and other similar dietary ideas were without basis and condemned them in a report on "food fallacies and nutritional quackery."

"The great popular demand for information about foods and health during recent years," the report said, "has resulted in an increasing and alarming amount of exploitation of false and harmful ideas foisted upon the public by dietary quacks, faddists and self-styled nutrition experts."

"'Acidosis' is a term frequently and effectively used by the purveyors of food fallacies. Nearly all the diseases that afflict mankind can be found enumerated as the result of acidosis caused by eating acid foods."

Disease Condition

"Elaborate menus are offered for alkali-forming meals, and systems of dieting which can be had by purchasing their books or enlisting their services and special courses. The claim that acidosis will result from eating bread and meat or certain combination of foods, such as proteins and starches or fruits and starches, is entirely unsupported by scientific evidence.

"Acidosis is usually a condition attending certain diseases, such as diabetes or kidney diseases, involving faulty metabolism of the body.

"There is no evidence that a preponderantly acid diet is injurious."

Better Cooked

Concerning the eggs the report reads, "It has been pointed out by numerous investigators that the white of eggs is much less digestible when raw than when cooked. There is even evidence that raw egg white, when fed to experimental animals, will invariably produce toxic symptoms.

"One of the most common and extensively proclaimed nutritional fallacies is that proteins and starches are incompatible and should be separated into distinct and separate meals."

This idea ignores the fact, says the report, that a large proportion of staple food articles contain both starch and protein.

Other ideas listed as fallacies are: To eat but one kind of starch or one kind of protein at a time, to think that arthritis comes from improper food combinations, to refrain from acid fruits with carbohydrate foods, to avoid the use of dark meat . . . .

DISEASE PLAGUES: IN ETHIOPIA

By Laurence Stallings*

Harar, October 8.—(Exclusive)—Regardless of the Italo-Ethiopian dispute, only the science of western powers may eliminate the four great scourges in Ethiopia, diseases which are deeply rooted in the populace.

Typhus is such a common disease—as common as whooping cough—that any attempt to eradicate it by cleanliness is beyond the farthest conjecture, the native Ethiopian peasant being, in his general husbandry, as unsanitary a man as inhabits the globe.

Theory Exploded

Emperor Haile Selassie, who is a modernist, believed that typhus innoculation among 200,000 soldiers might be the opening plan in a campaign against this disease. Accordingly, following successful innoculations for typhus by Polish doctors in China, he corresponded with laboratories at Lemberg and received the reply that three months were required to develop serum sufficient for 150 innoculations.

The carrier of typhus is a small, blackish louse, and contact with natives inevitably finds the intruder endowed with several of these little creatures. They are so prevalent that yesterday, while the Governor of this province was hearing a state case, the correspondent observed a councillor's friendly action in plucking a louse from a fellow statesman. He flicked the little pest onto the carpet with the utmost politeness, his colleague barely inclining his head in thanks.

Fleas Also Pest

Natives dip their clothing in rancid butter, which sometimes is fairly effective as defense against the lice. Fleas, however, which do not carry typhus, are hardly considered pests. One correspondent fleas himself nightly, though the inconvenience caused by flea powder in a fresh bite is considerable. Fleas in a reasonable quantity, as David Harum observed, are good for a dog: "They keep him from brooding on being a dog." In this war to end all war correspondents, it it may be that fleas are equally providential.

Ticks Most Dreaded

It is the tick which doctors here dread most; for the hard-hearted creature carries with it bacteria for irregular, or tick fever. Of all Ethiopian scourges, tick fever is the most obstinate and the widest spread. The tsetse fly of Lake Tana and the Nile country of Ethiopia is nothing so dreadful as this chap who seems to lurk everywhere, fastening to boots in joyful anticipation of nightfall, when usually a favorite place of hiding is a sock.

Malaria is rated in third place. At least it flourishes in certain areas, radically defined. Quinin is hardly procurable here. At Diredawa, forty miles away, it is a staple article of diet, for the Anopheles mosquito does his work nightly there. Even so, tick fever is more dreaded by doctors than either typhus or malaria.

Other Diseases

In fourth place among the great scourges are social diseases. Most doctors here incline to the belief that the Crusaders carried them to Europe from the Red Sea countries. One ailment is nothing like the social disease of western man, but a deep-rooted, omnipresent malady. One sees scores of children with atrophy of the optic nerves in every gathering of natives. The marks of it are evident in every farm community.

It would not be safe to say that fifty years will find Ethiopia on the way to modern sanitation. Doctors decline to speculate as the country provides no basis whatsoever for such conjectures. It can be said with certainty, however, that no part of the globe needs medical service more or provides such clinical opportunities for research. The great medical foundation of the Rockefellers, had the Standard Oil contract brought this research group into closer relationship with Ethiopian problems, could find no more suitable field for work.

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* Correspondent for North American Newspaper Alliance, Inc.

TWENTY-FIVE YEARS AGO[†]

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 11, November 1910

From Some Editorial Notes:

From an article on "Hematuria—An Initial Symptom of Chronic Nephritis" by R. L. Rigdon, M. D., San Francisco.

Under the headings of essential hematuria, idiopathic hematuria, symptomless hematuria, etc., have been grouped a class of renal bleeding, the cause or causes of which were unknown. By the aid of newer methods of examination, chiefly ureteral catheterization, and more careful and complete microscopic examination of extirpated or autopsied kidneys, much additional light has been shed upon this obscure field of renal pathology, and today we are able to separate some of these so-called idiopathic hematurias into rather definite groups, and to more properly classify them. . . .

From an article on "The Dietetic Treatment of Nephritis" by Rene Bine, M. D., San Francisco.

Since the year 1827, when Richard Bright published his "Report of Medical Cases with a View of Illustrating the Symptoms and Cure of Diseases by a Reference to Morbid Anatomy," until recent years little was added to our knowledge of the normal and pathological physiology of the kidney, as compared with the progress made in the study of other organs. Therefore, the treatment of nephritis has rested solely upon empiricism. Careful clinical observation, as well as work on experimental nephritis, has lately done much toward explaining the various symptoms of nephritis, and placing its treatment upon a scientific basis. . . .

From an article on "History of Rabies in Southern California" by Stanley P. Black, M. D., and L. M. Powers, M. D., Los Angeles.

There is no disease, perhaps, in which the public mind is so beclouded as with that of hydrophobia. The general public often denies the existence of the disease, and even among the profession we have seen doctors who say they never saw a case of rabies, and who state, therefore, it does not exist. Rabies is a disease which affects many animals, most commonly dogs, and more rarely the human being; but Doctors Kerr and Stimson, in their paper read before the American Medical Association, had collected one hundred and eleven human deaths from hydrophobia in 1908. Every dog which bites an individual is not a rabid dog. It may be angry, but not hydrophobic. On the other hand, a large proportion of the hydrophobic dogs are unable to bite. We have the disease in the dog in two forms. First, and most common, the dumb variety, in which the lower jaw is paralyzed. The dog is usually quite nervous, oftentimes very affectionate; but the drop of the lower jaw is quite characteristic. In the other variety we have the furious type, in which the dog will bite anything coming in his way. He rarely fights, but bites and passes on. . . .

From an article on "Ureterocystostomy" by George B. Somers, M. D., San Francisco.

In October, 1905, Dr. T. W. Huntington asked me to see, with him, a patient suffering from ureteral fistula. In consultation he outlined a plan of operation which seemed to me both eminently practicable and possessed of original features. The procedure was carried out with perfect results. . . .

[†] This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

(Continued in Front Advertising Section, Page 20)

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA[†]

By Charles B. Pinkham, M.D.
Secretary-Treasurer

"Practice of medicine by corporations is illegal in California, Superior Judge C. J. Goodell held yesterday in deciding for the State in an action directed against the Pacific Health Corporation. The decision frowns on a plan whereby through payment of dues persons in good health might provide for medical and hospital service. The action was brought by the State Medical Board in *quo warranto* proceedings through Attorney-General Webb." (San Francisco *Chronicle*, October 16, 1935.)

"Whether the practice of naturopathy by a group of chiropractors in California should be permitted was left today by the Supreme Court [of the United States] to [California] State officials to determine. The court refused to review the ruling April 12, 1935, by the Southern Federal District Court of California that the dispute presented no federal question. The California Medical Practice Act and Chiropractic Act were called unconstitutional by the United States Naturopathic Association, Ltd., its officers and individual members. It listed headquarters at Phoenix, Arizona, and a branch at Hollywood and asked an injunction against the Chiropractic League of California, State Board of Examiners, and State officials to prevent them from 'arresting and otherwise interfering with' the naturopaths, who also are chiropractors." (Associated Press dispatch, dated Washington, October 14, and printed in the Los Angeles *Times*, October 15, 1935.)

"The State Chiropractic Act was challenged here today when Justice of the Peace C. R. Taylor ruled that the Act failed to define chiropractic and dismissed a local practitioner charged with violation of it. The ruling came in the case of Orville Savage, 50, arrested on complaint of George Swanson of the State Chiropractic Board. The defense contended that the State Act of 1922 did not define chiropractic and that no cause for the action existed. With the jury waiting to hear the case, the court ruled that the defense point was good and discharged Savage. Attorneys say the decision, if upheld, may upset the operation of the entire Act." (Press dispatch dated Watsonville, October 16, and printed in the San Francisco *Chronicle*, October 17, 1935.)

"In a decision which may have a far-reaching effect throughout the State regarding provisions of the State Chiropractic Act, Superior Judge Charles L. Allison Monday sustained the judgment of Justice Russell A. Wickizer in convicting E. B. Hartman, San Bernardino chiropractor, on three counts of violation of the State Medical Practice Act. Judge Allison held that those who hold licenses under the law enacted December 21, 1922, must conform to the statute as construed at that time. Any other interpretation, Judge Allison ruled, would empower all chiropractors to use such methods as are now taught in chiropractic schools and colleges, even if they were unacquainted with them. . . ." (Ontario *Report*, September 24, 1935.)

"Dr. Theodore Snypp appeared today before United States Commissioner J. Q. Brown in Sacramento to answer charges of prescribing narcotics in large quantities to alleged narcotic peddlers. He was taken into custody this morning by Hayden H. Saunders, Deputy

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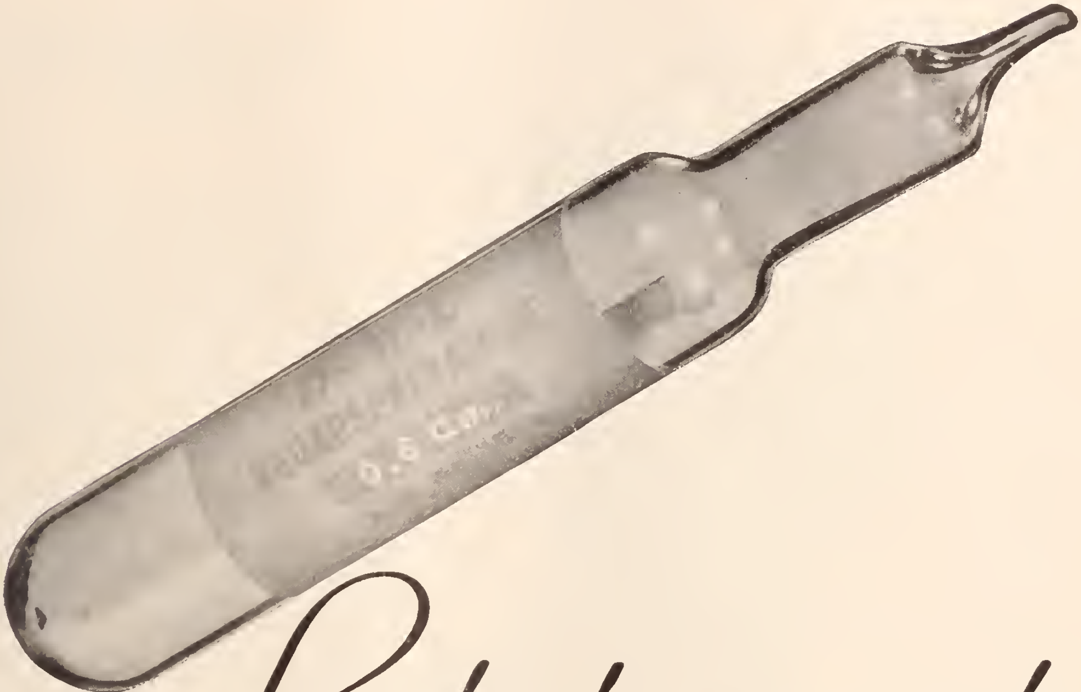
[†] The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6.

(Continued in Front Advertising Section, Page 22)



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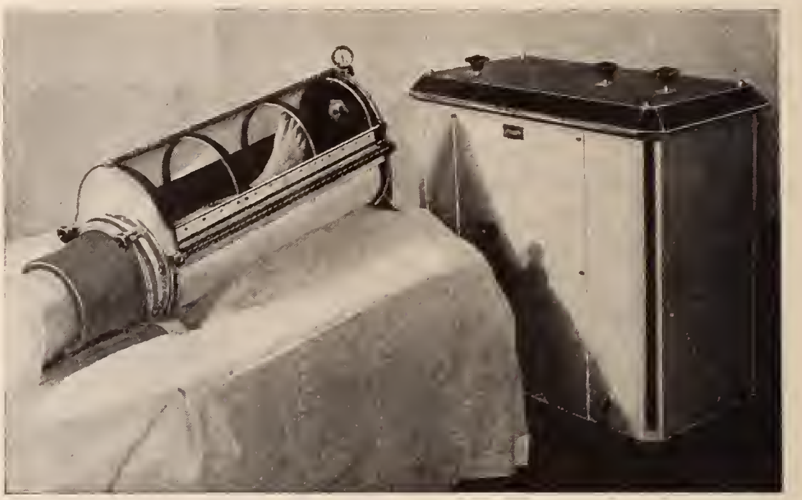

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BOARD OF MEDICAL EXAMINERS

(Continued from Page 29)

older than he actually is. Evidently he was safe under the California laws, but made the mistake of crossing over into Arizona. At least that is the supposition from the following press dispatch from the Los Angeles *Herald and Examiner*: 'Phoenix, September 17.—St. Louis Estes, 58-year-old health lecturer, was sentenced to sixty days in jail on a charge of practicing the healing art without a certificate from the State Board of Examiners in basic sciences. He filed notice of appeal after Judge Howard C. Speakman granted a writ of probable cause for such action, fixing Estes' bond at $1,000.'" (La Grange (Illinois) *Citizen*, September 26, 1935).

"'Dr.' Joseph Guarascio, who is asserted to have been doing a land-office business as a physician at 1601 North Stanley Avenue, was haled into Municipal Judge Wilbur Curtis' court today on a charge of practicing medicine without a license. William Byrne, investigator for the State Medical Board, who arrested Guarascio, declared his investigation revealed that the man had collected more than $4,000 in fees since he opened the establishment two months ago. Byrne charged Guarascio with prescribing medicine, giving treatments, and otherwise representing himself to be a licensed physician, although he assertedly has no license to practice. . . ." (Hollywood *Citizen News*, September 24, 1935.

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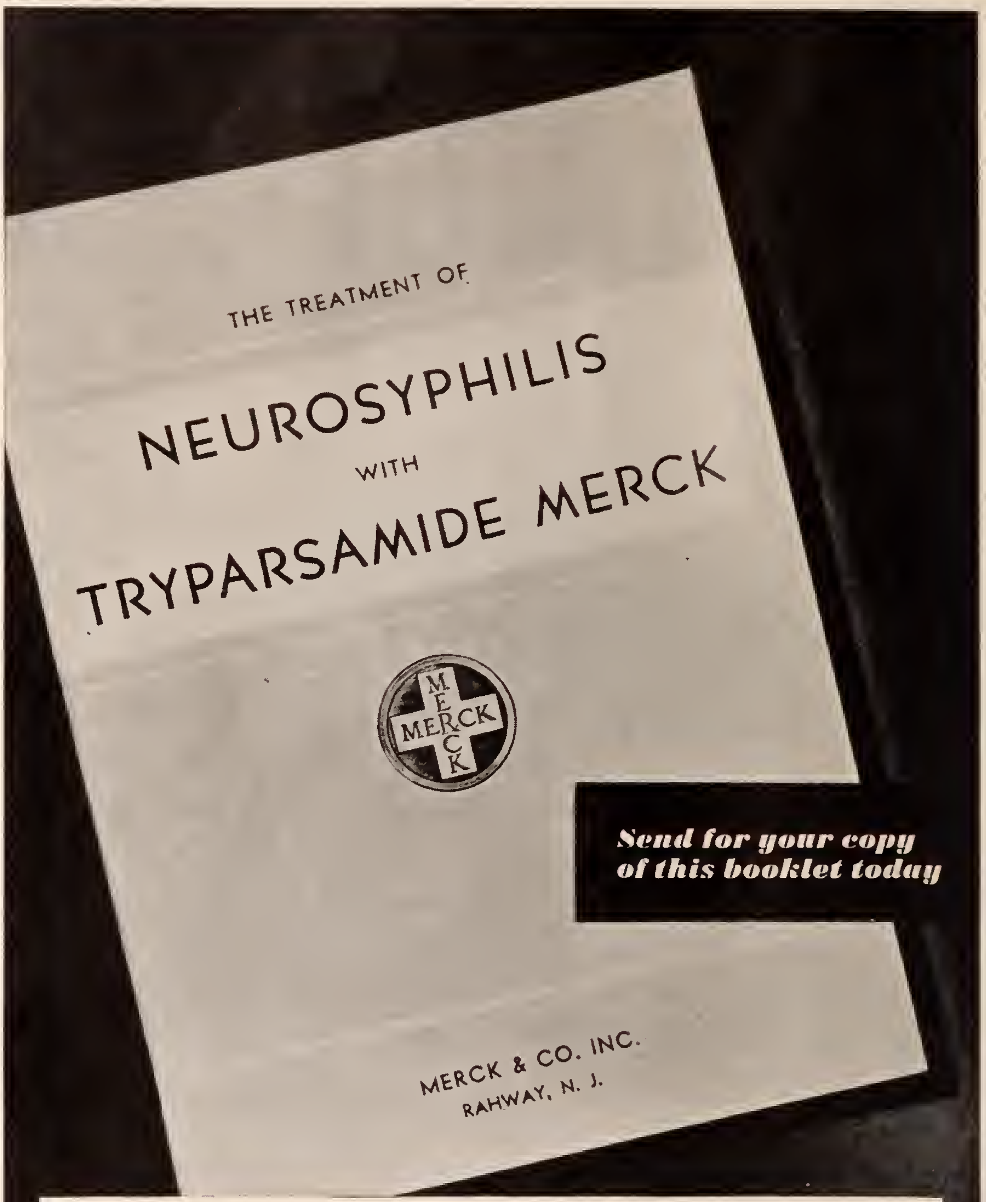
"Dr. James W. Brownlie, County Physician for Solano County, and a Vallejo druggist, Jacob Pauker, were arrested by State narcotic agents in Vallejo yesterday. The prominent county official and Pauker were charged with making illegal dispensations of narcotics to addicts in Vallejo. Inspector J. M. Burnett and State Officer Joseph O'Farrell stated they had found evidence that Brownlie and his asserted partner had issued 128 prescriptions for narcotics, assertedly in violation of the State Narcotic Act. . . ." (San Francisco *Examiner*, October 13, 1935.)



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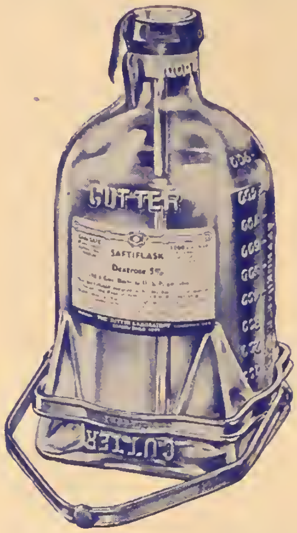

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(Roster lists continued on advertising page 4)

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Annals of Internal Medicine,
Vol. 71, No. 3, September, 1933)

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(Roster lists continued on advertising page 6)

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COD LIVER OIL
CONTAINS VITAMINS
A, B, D and G
IN NATURAL FORM
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Fred B. Clarke, Long Beach	1936-1937	A. J. Scott, Los Angeles

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San Francisco—State Office Building, McAllister and Larkin Streets. UNderhill 8700.

Sacramento—State Office Building, Tenth and L Streets. CApital 2800.

Los Angeles—State Office Building, 217 West First Street. MAdison 1281.

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Secretary, Robert W. Langley, 1002 Wilshire Medical Building, 1930 Wilshire Boulevard, Los Angeles.

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The Institutions here listed have announcements in this issue of California and Western Medicine. For Index, see advertising page 8.

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For Treatment of Tuberculosis
San Jose, California

CALIFORNIA SANITARIUM
For Treatment of Tuberculosis
Belmont, California

CANYON SANATORIUM
For the Treatment of Tuberculosis
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Treatment of Malignant Tumors with Fractional Roentgen Irradiations.—Chaoul points out that the superiority of radium therapy over roentgen therapy is not so much due to the character of the rays as to the manner of application. For this reason attempts have been made by Holthusen and others to devise a method of roentgen irradiation the action of which resembles that of radium rays. The author worked with a modified roentgen method that applies the rays to small fields. The focal skin distance is generally 5 centimeters, the tension 60 kilovolts, and the filter 0.2 millimeters of copper. In this manner the depth dose is somewhat greater than is generally the case in radium contact irradiation, but the author sees in this an advantage of the treatment. He administers daily from 300 to 400 roentgens. The irradiation time is rather short, for, with a minute flow of from 100 to 150 roentgens, the 300 or 400 roentgens can be applied in about two minutes. The total dose varies between 4,000 and 8,000 roentgens. This amount is applied within a period of from two to four weeks. If in the course of the irradiations dark red erythemas develop, accompanied by a loosening of the epidermis, it is advisable to interrupt the irradiations. Generally the reactions after this form of short-distance irradiation resemble those of Coutard's method. The modification of the tumor often becomes manifest in the course of the treatment, and, if this is the case, high doses may be dispensed with. Caution is necessary if the patient has previously been irradiated by some other method, because there is danger of necrosis. For the same reason the author rejects the combination of this short-distance irradiation with some other form of roentgen irradiation. He considers the treatment indicated in the same cases in which contact or implantation radium therapy would be employed. So far the treatment has been used in 146 cases, among which were all forms of skin carcinomas and carcinomas of the lip, the oral cavity, the parotid, the breast and the rectum, the latter following resection of the coccyx and opening of the intestine. The author stresses the advantages of this treatment in cases in which it is impossible to obtain adequate amounts of radium.—*Strahlentherapie.*

Five More States Freed of Cattle Tuberculosis.—Five more states have been officially designated as modified accredited areas by the United States Department of Agriculture, signifying their practical freedom from bovine tuberculosis. These states, Massachusetts, South Carolina, Georgia, Alabama, and Louisiana, constitute the largest group ever admitted, at one time, to the modified accredited status in the history of eradication work.

The early completion of state-wide testing in these states was made possible through the use of federal emergency funds provided for cattle-disease control and to the splendid coöperation on the part of the livestock owners and local officials.

The advanced status of the work in these five states brings the total of modified accredited areas to thirty-one or nearly two-thirds of the forty-eight states. Officials in charge of the work for the United States Department of Agriculture point out that some retesting of herds in areas now apparently free of the disease will need to be conducted, but that the most difficult part of tuberculosis-eradication work in the modified accredited areas has been completed.

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BOOK REVIEWS

List of Books Received

BOOKS RECEIVED

Diet and Die. By Carl Malmberg. Cloth. Pp. 149. Price, $1.50. New York: Hillman-Curl, Inc., 1935.

John Whitridge Williams. Academic Aspects and Bibliography. By J. Morris Slemons, M. D., Los Angeles. Cloth. Pp. 109. Price, $1.50. Baltimore: The Johns Hopkins Press, 1935.

Surgery: Queen of the Arts and Other Papers and Addresses. By William D. Haggard, M. D., F. A. C. S., D. C. L., Nashville, Tennessee, Professor of Clinical Surgery, Vanderbilt University School of Medicine; Surgeon to Vanderbilt Hospital and St. Thomas Hospital; President, Southeastern Surgical Congress; former President of the American Medical Association, the American College of Surgeons, the Inter-State Postgraduate Medical Association of North America and Southern Surgical Association, and the Tennessee Medical Association. With Foreword by William J. Mayo. Cloth. Pp. 389, illustrated. Price, $5.50 net. Philadelphia and London: W. B. Saunders Company, 1935.

Prescription Writing and Formulary. The Art of Prescribing. By Charles Solomon, M. D., Assistant Clinical Professor of Medicine, Long Island College of Medicine; Associate Attending Physician and Chief of the Medical Clinic, Jewish Hospital of Brooklyn; Lecturer in Materia Medica, Nurses' Training School, Jewish Hospital. With a Foreword by Lewellys F. Barker, M. D. Cloth. Pp. 351, with thirty-two illustrations. Price, $4. Philadelphia: J. B. Lippincott Company, 1935.

A Terminology of Operations of the University of Chicago Clinics. By Hilger Perry Jenkins, M. D. Paper. Pp. 99. Price, $1. Chicago: The University of Chicago Press, 1935.

United States Naval Medical Bulletin. Volume 33, Number 4, October, 1935. Published for the Information of Medical Department of the Navy. Issued by The Bureau of Medicine and Surgery, Navy Department. Division of Publications, Commander Louis H. Roddis, Medical Corps, United States Navy, in Charge. Compiled and published under the authority of Naval Appropriations Act for 1934, approved March 3, 1933. Paper. Pp. 151. Price, 25 cents. Washington: United States Government Printing Office, 1935.

The Rockefeller Foundation Annual Report. 1934. Paper. Pp. 408. New York: The Rockefeller Foundation, 1935.

Annual Report of the Board of Regents of the Smithsonian Institution. Showing Operations, Expenditures, and Condition of the Institution for the Year ending June 30, 1934. Paper. Pp. 448. Price, $1. Washington: United States Government Printing Office, 1935.

Uber Die Rhythmik Der Leberfunktion, Des Stoffwechsels und Des Schlafes. Von Erik Forsgen. Paper. Pp. 45, illustrated. Price, kr. 6:50. Stockholm: Isaac Marcus Boktryckeri-Aktiebolag, 1935.

NEW MEDICAL BOOKS

Brailsford: Radiology of Bones and Joints, 2nd edition $9.00
Crossen: Diseases of Women, 8th edition 10.00
Shelling: Parathyroids in Health and Disease 6.00
Sherwood: Immunology 6.00

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TWENTY-FIVE YEARS AGO

(Continued from Text Page 464)

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From an article on "The Enucleation of the Tonsil from the Standpoint of the General Medical Man" by Langley Porter, M. D., San Francisco.

. . . The facts being such, the problems that lie before the practitioner are (1) to decide what type of chronically diseased tonsils can be treated medically with a fair prospect of success; (2) when he finds it necessary to transfer a case to the specialist, to decide if the patient shall be sent to an operator who believes in enucleation, or to one who practices tonsillotomy. . . .

From an article on "The Enucleation of the Tonsil—A Surgical, Not a Radical Procedure" by Albert J. Houston, M. D., San Francisco.

. . . Before we accept and standardize any operation there must be two considerations: it must surpass in efficiency, and not fall short in safety. As regards efficiency, we must consider the purpose to be attained: Why, in other words, do we have to remove tonsils? . . .

Los Angeles County Medical Association.

. . . In preparation for the meeting of the American Medical Association, which will be held in Los Angeles in June, 1911, the following committees have been

(Continued on Page 17)

●

THE TIN CONTAINER

● The simple facts about many things encountered in everyday life are sometimes not understood and, frequently, their values are not fully appreciated by persons thrown in daily contact with them. Among such things, we can include the so-called "tin cans" and the foods which they may contain.

For example, many may have wondered—but, certainly, few have inquired—as to the origin of the popular designation for tin containers. The name "tin cans" arose from an abbreviation of the term "tin cannisters" applied to them during the latter part of the last century by English manufacturers. Such a name is hardly correct, since "tin cans" are made from mild steel which has been rolled into thin sheets and coated with pure tin. Actually, the can is about ninety-eight percent iron.

Again, interest has sometimes been expressed in regard to the nature and purpose of the enamels found in cans in which certain products are packed. These enamels are essentially lacquers developed by years of intensive research; they are baked on the tin surface at high temperatures. Their chief purpose is to preserve natural flavor and color characteristics of some foods. While desirable in certain instances, enameled cans are not necessary to insure a wholesome canned product.

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AMERICAN CAN COMPANY

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(1) 1934. Ind. Eng. Chem. 26, 758
(2) 1932. Ind. Eng. Chem. 24, 650

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TWENTY-FIVE YEARS AGO

(Continued from Page 12)

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San Francisco County Medical Society Proceedings.

The regular meeting of the San Francisco County Medical Society was held September 13, 1910.

The recommendation of the Executive Committee that the Society be divided into four sections, meetings to be held on each Tuesday of the month, was put to the members of the Society for vote. The members voted in favor of this recommendation, and the secretary was instructed to report to the Board of Directors for further action. . . .

In accordance with the by-laws, the president presented a list of thirty nominees for the Board of Directors for the ensuing year. Nominations being received from the floor, several other names were added to the list. The members will no doubt by this time have received their ballots with the names of the candidates; they are to vote for twenty-one and return their ballots to the office of the secretary at their very earliest convenience. The following are the nominees:

Milton Abrahamson
Harry E. Alderson
Rene Bine
Adelaide Brown
J. Henry Barbat
Frank B. Carpenter
George E. Ebright
George H. Evans
Jule B. Frankenheimer
W. Scott Franklin
Henry Walter Gibbons
Louis Gross
Herbert Gunn
Samuel J. Hunkin
Philip Mills Jones
William Watt Kerr
H. B. A. Kugeler
C. G. Kenyon
A. J. Lartigau
Charles G. Levison
Milton B. Lennon
Howard Morrow
Herbert C. Moffitt
Edward Giles McConnell
Thomas D. Maher
Harry R. Oliver
Arthur A. O'Neill
William Ophüls
H. D'Arcy Power
Julius Rosenstirn
H. A. L. Ryfkogel
Emile Schmoll
John C. Spencer
Harry M. Sherman
Dudley Tait
W. S. Thorne
W. P. Willard
Fred H. Zumwalt

An article on "The Menace of Tropical Diseases to California" by Herbert Gunn, M. D., San Francisco.

The importance of tropical medicine is rapidly becoming appreciated throughout the United States; and where only a few years ago only an occasional worker could be found interested in the subject, now there are many. . . .

No state in the Union is more vitally affected by the group of diseases generally known as tropical diseases than California. Our intimate commercial intercourse with many tropical regions furnishes an abundance of diseases peculiar to those countries. Upon the completion of the Panama Canal our increased

(Continued on Next Page)

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V. LABRUCHERIE, *Superintendent*
LOUIS LALANNE, *Secretary*
ELSIE E. MITCHELL, R. N., *Supt., School of Nursing*

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ALEX THIBODEAU, M. D., Associate
CARL WINTERNITZ, M. D., Assistant
E. S. KILGORE, M. D., Consultant in General Medicine
HAROLD HAND, M.D., Consultant in Gastro-Enterology
THOMAS G. INMAN, M. D., Consultant in Neuropsychiatry
MARK GERSTLE, JR., M. D., Consultant in Neurology
JAY JACOBS, M. D., Dermatologist
CABOT BROWN, M. D., Consultant in Lung Diseases

Urology
A. H. McNULTY, M. D.
ALVIN E. CERF, M. D.
SAMUEL A. GOLDMAN, M. D.

Radiology
LLOYD B. CROW, M. D.

Surgery
ASA W. COLLINS, M. D., F.A.C.S., Chief
HAROLD M. GILFILLAN, M. D., Assistant
E. B. TOWNE, M. D., Consultant in Neurological Surgery
EDMUND J. MORRISSEY, M. D., Consultant in Neurological Surgery
GEORGE WARREN PIERCE, M. D., Consultant in Plastic Surgery
W. L. ROGERS, M.D., Consultant in Lung Surgery

House-Visiting Department
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LOUIS D. RONCOVIERI, M. D.

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BRADFORD F. DEARING, M. D.
M. STALLINGS, M.D., Pediatrics, Allergy

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VICTOR D'ERCOLE, M. D., Assistant

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R. F. GRANT, M. D.
CHESTER L. COOLEY, M. D.

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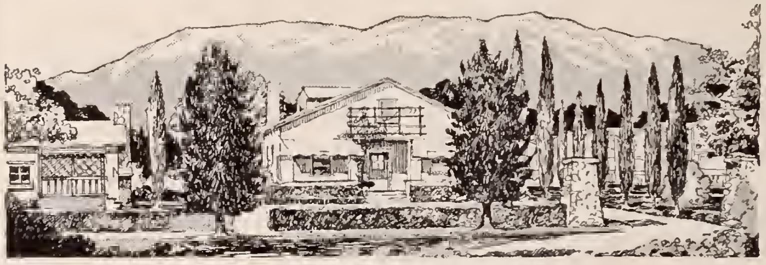
DAVID A. WOOD, M. D., Director of Laboratory



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SOUTHERN SIERRAS SANATORIUM

TWENTY-FIVE YEARS AGO

(Continued from Preceding Page)

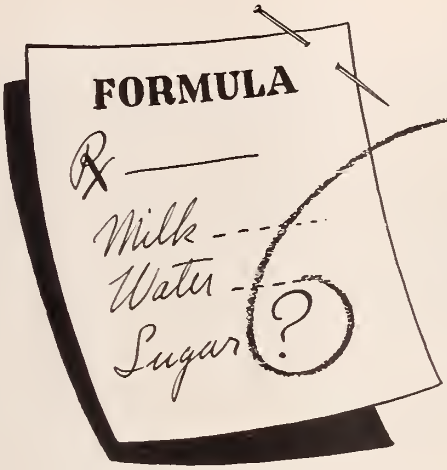
traffic on the Pacific will give rise to new and serious problems in the prevention of the dissemination of new diseases in the country. The climatic conditions here in California are in certain parts of the State quite favorable to the development of tropical diseases, so that we have no reason for believing that if introduced they will not flourish.

From an article on "A Case of Continued Fever" by W. C. Alvarez, M. D., San Francisco. Read at the meeting of October 4, 1910.

Nothing will teach a man so much, or keep him so humble, as the frequent performance of autopsies. He will become all the humbler if the mistakes and oversights occur in his exhibition cases like the one I am about to describe. Such accidents must have happened even to the Father of Medicine, judging from the first of his famous aphorisms, "Experience is fallacious and judgment difficult."

From an article on "Quantitative Food Prescribing" by H. D'Arcy Power, M. D., San Francisco. Read at the meeting of October 11, 1910.

It would be interesting to ascertain the percentage of physicians who in the United States—or for that matter in any country—habitually prescribe a quantitative dietary for their patients' use. So far as I have been able to judge, one per cent would be in excess of the truth; yet it is universally recognized that every deviation from the physiological norm is fraught with loss in matter of energy that too often is irreparable. Why, then, do we not prescribe foods with as much accuracy as we apply to drugs? Why do we condemn the shotgun prescription and condone the shotgun diet?

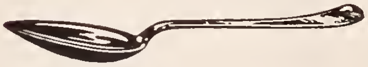


How much Carbohydrate for the Formula?

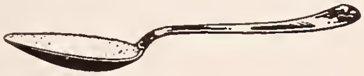
Some physicians don't realize that volume for volume, Karo Syrup furnishes about twice as many calories as a similar sugar modifier in powdered form.

Try this Saturation Test . . .

Add a little water to a level tablespoonful of any powdered maltose-dextrin-dextrose and warm over a Bunsen flame. The full tablespoonful of powder shrinks to about one-half of a tablespoonful of syrup.



Karo Syrup contains twice as many calories as . . . .



Powdered Maltose-Dextrins-Dextrose including Karo Powdered

KARO is already saturated with maltose-dextrins-dextrose, which is why it is so rich in calories. A tablespoonful of Karo Syrup yields approximately sixty calories, while a tablespoonful of powdered maltose-dextrins-dextrose gives approximately twenty-nine calories. In using Karo Syrup remember its high caloric value. You may follow our Karo formulae devised by eminent pediatricians. But if you use formulas calculated for similar sugars in powdered form, only half the number of tablespoonfuls of Karo Syrup are necessary to furnish the same caloric value of carbohydrate.

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Lima FLOUR—is available in 10-lb. bags at $1.20, and in 100-lb. bags at $10.00. Upon receipt of price and delivery instructions your order will be shipped parcel post or express collect. Send orders, and make check or money order payable to—

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BOARD OF MEDICAL EXAMINERS

(Continued from Text Page 464)

"Three to fifteen years in San Quentin prison because a girl died in an abortion operation under his hand, was the sentence meted out to Harley Heddens, pseudo-doctor, by Superior Judge Joseph Vickers today. His wife, Rose Marie Heddens, was sentenced from two to ten years, and W. G. Brown, his assistant, to from two to five years. In passing sentence, Judge Vickers stigmatized the defendants as 'the worst illegal operation ring to come before the court in years. . . . Heddens, an electrical engineer, knowing nothing whatever about the science of medicine, deliberately took the lives of these women into his hands.' He particularly excoriated Mrs. Heddens for perjuring herself in court. 'Instead of being sorry for your crime,' he bitterly told her, 'you have shown no feeling whatsoever and have lied throughout the proceedings.' Motion for a new trial was denied all three, as was, likewise, the petition for permission to file application for probation. Brown was granted a ten-day stay of execution, pending filing of an appeal." (Los Angeles *Post-Record,* October 18, 1935.) (Previous record, December, 1925; March, May, and August, 1926; October, 1935.)

"When a doctor renders emergency aid to a patient in a city where no receiving hospital is maintained by that city, his services are deemed to be *gratis.* This ruling was made yesterday by Municipal Judge Newcomb Condee, before whom judgment sought by a physician in such a case was denied. . . . Judge Condee ruled that when no contract exists between the doctor and patient, either oral or written, and where there is no receiving hospital, the doctor gives his services in the interest of humanity." (Los Angeles *Illustrated Daily News,* October 21, 1935.) [See also November CALIFORNIA AND WESTERN MEDICINE, page 325.]

(Continued on Page 22)

UNAFRAID

ANTICIPATION OF A SURGICAL OPERATION often induces great apprehension in patients which in turn robs them of sleep—drains their resources—creates anxiety and increases the surgical risk. For these patients the administration of a safe sedative or hypnotic brings welcome relief and freedom from fear.

IPRAL SODIUM (sodium ethylisopropylbarbiturate) is a safe sedative and hypnotic which induces refreshing sleep closely resembling the normal. It is readily absorbed, rapid in action, of low toxicity and effective in small therapeutic doses. When administered in therapeutic dosage no untoward organic effects have been observed. Supplied in ¾-gr., 2-gr. and 4-gr. tablets.

For conditions where pain accompanies insomnia, the use of IPRAL AMIDOPYRINE (2 gr. Ipral, 2.33 gr. Amidopyrine) is desirable to fortify the patient against pain, as it provides both an analgesic and a sedative effect.

Both of these Squibb Ipral Products are supplied in bottles of 100 and 1000 tablets. For descriptive literature address the Professional Service Department, 745 Fifth Avenue, New York City.

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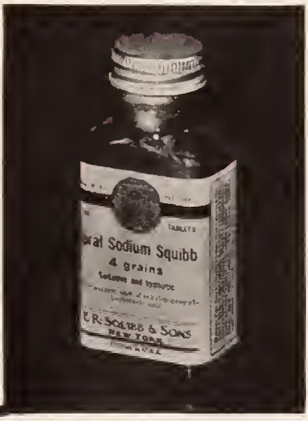

APPROVED CLINICAL PATHOLOGISTS

American Medical Association Essentials for An Approved Clinical Pathologist

An approved clinical pathologist should be a licensed graduate of medicine. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry, and other allied subjects for at least three years, and he should be reasonably familiar with the manifestations of disease in the body. The director of a clinical laboratory shall be on full time or have definite hours of attendance, devoting the major part of his time to this specialty. A clinical laboratory is an institution organized for the practical application of the fundamental sciences by the use of specialized apparatus, equipment and methods, for the purpose of ascertaining the presence, nature, source, and progress of disease in the human body.

The following Clinical Pathologists directing private laboratories in California are approved by the Council on Medical Education and Hospitals of the American Medical Association:

Clinical Laboratory of Drs. W. V. Brem, A. H. Zeiler, Roy W. Hammack and G. D. Maner, 657 So. Westlake Avenue, Los Angeles, California.

Zera E. Bolin, M. D., 490 Post Street, San Francisco, California.

These laboratories use standard methods and are fully equipped to make all clinical examinations of recognized value in: Tissue Pathology, Bacteriology, Hematology, Serology, Bio-Chemistry, Kolmer Wassermanns, Kahn test, Medico-legal, Basal metabolism, Blood chemistry, Hormone Test for Pregnancy, Parasitology, Cardiology, Autogenous vaccines, etc.

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in the treatment of Respiratory Infections — so common at this time of year — can be accomplished by the use of

HOLLISTER-STIER Mixed Vaccine No. 10
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Staphylococci (Aureus)	600 million
Staphylococci (Albus)	600 million
Streptococci	200 million
Pneumococci	150 million
M. Catarrhalis	150 million
B. Friedlander	150 million
B. Influenza	150 million
Total	2000 million

Indications: Prophylaxis for common colds and in the treatment of catarrhal conditions of the nose and throat, common colds, bronchitis, influenza, secondary infections, accompanying pulmonary tuberculosis, etc., bronchial and catarrhal asthma.

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BOARD OF MEDICAL EXAMINERS

(Continued from Page 20)

"Accused of prescribing narcotics in bad faith to a narcotic addict, Dr. Lester Crane (Crain, D. O.) of 1544 North Western Avenue, was convicted last night in Municipal Court of violating the city anti-narcotic ordinance. According to Deputy City Attorney Franklin J. Potter, Prosecutor, Crane's (Crain's) office is frequented by motion-picture actors and others in the film colony. Sentence will be pronounced tomorrow at 8 p. m." (Los Angeles *Illustrated Daily News,* October 22, 1935.) "Dr. Lester Crain today began serving a term of 180 days in the city jail, imposed by Municipal Judge Ida May Adams upon his conviction upon a narcotic charge." (Los Angeles *Post-Record,* October 24, 1935.)

"The maximum sentence of 180 days in jail and a $600 fine were imposed yesterday by Municipal Judge Scott against Joseph Guarascio, herbalist, of 601 North Stanley Street, who was convicted of violating the State Medical Act. . . ." (Los Angeles *Times,* November 7, 1935.) (Previous entry, November, 1935.)

"Accused of violating State laws by advertising himself as a 'bloodless surgeon,' William D. Noland, chiropractor, was found guilty of the charge of misdemeanor yesterday by Municipal Judge Irvin Taplin. He was granted permission to file an application for probation." (Los Angeles *Examiner,* November 1, 1935.)

"Frederick Reed of 710 South Western Avenue, seller of gravitonic life ray machines, was convicted yesterday of violating the State Medical Practice Act by a jury in Municipal Judge R. Morgan Galbrath's court. His 'gravitonic' apparatus, which he sold to several persons to cure

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various ailments, was nothing more than a four-tube radio rigged up with a spatulate applicator to rub on afflicted parts." (Los Angeles *Illustrated Daily News*, February 5, 1935.) (Previous entries, December, 1928; May, 1935.)

Investigation reports relate that Adele Millar, widely advertised beauty operator, mentioned in November "News Items," was on October 2, 1935, sentenced in the Municipal Court, Los Angeles, to pay a fine of $400, following conviction of violation of the Medical Practice Act. Said fine was reported to have been paid into court October 2.

"Acid scars on the face of one of her customers today convicted Adele Millar, widely advertised beauty operator, of practicing medicine without a license. Municipal Judge Wilbur C. Curtis convicted Miss Millar after Mrs. Nina Breitung, 5429 Virginia Avenue, testified that scars on her face resulted from one of Miss Millar's 'beauty peel' treatments. . . . Miss Millar was released on $250 bail. . . ." (Los Angeles *Post-Record*, September 20, 1935.)

"An association of California Hospitals, with headquarters in San Francisco, has filed notice of organization at the capital. R. E. Heerman of Los Angeles is the president." (Sacramento *Bee*, September 5, 1935.)

"Dr. Percy Purviance, asserted Berkeley 'diploma mill' proprietor, who is awaiting trial in Oakland for asserted violation of the State Medical Practice Act, this week moved to escape trial by writ of habeas corpus filed before the District Court of Appeal. The

(Continued on Page 26)

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STOP THAT CRY-ING!"

If this tired, worried, over-worked mother were using Pablum for her babies' cereal feedings, she could have slept that extra much-needed hour instead of losing her temper while her children clamor for breakfast. For she can prepare Pablum in an instant, directly in the cereal bowl, simply by adding water or milk of any temperature—salt, cream and sugar for the older child and herself.

Getting up an hour earlier in the morning is an inconvenience for most persons, but for the mother of young babies it is a hardship, sometimes almost tragic, frequently nullifying the best-planned pediatric advice.

This is especially true in the case of the nursing mother whose supply and quality of breast milk are affected by emotional shocks resulting often in agalactia and sometimes giving rise in the baby to diarrhea, colic, and even convulsions. Furthermore, the mother's emotional stress brings about a train of behavior on her part which is reflected in the child's psychologic reactions so that a vicious circle of bad habit formation is set up.

From this angle, the recent introduction of the pre-cooked form of Mead's Cereal, known as Pablum, assumes new importance in the doctor's psychological handling of both mother and child, quite aside from its nutritional value.*

Because Pablum can be prepared in a minute, the mother can sleep the extra hour she would otherwise be compelled to spend in a hot kitchen cooking cereal. Added rest means better poise, so that petty annoyances do not bring jaded nerves. Prompt feedings prevent many childhood tantrums, and a satisfied baby usually eats better and enjoys better digestion and growth.

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*Like Mead's Cereal, Pablum represents a great advance among cereals in that it is richer in a wider variety of minerals (chiefly calcium, phosphorus, iron, and copper), contains vitamins A, B, E, and G, is base-forming and is non-irritating. Added to these special features, it is adequate in protein, fat, carbohydrates, and calories. Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, yeast, alfalfa leaf, beef bone, iron salt, and sodium chloride.

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Made to order in 24 hours

Take measurements around iliac crest, umbilicus, distance from sacro lumbar articulation to 7th cervical vertebra prominence.

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San Francisco

BOARD OF MEDICAL EXAMINERS

(Continued from Page 23)

petition filed in his behalf by M. James McGranaghan, attorney, asserted evidence of law violation was lacking and contended no law covered complaints against him. Previous appeals to the Alameda County Superior Court and to the State Supreme Court were denied. Doctor Purviance, head of the Golden Gate Chiropractic College, 2168 Shattuck Avenue, Berkeley, was jailed two months ago on charges of selling a diploma for $100 to an investigator." (San Francisco *Chronicle*, September 8, 1935.)

"Dr. David A. Monheit, 51-year-old Oakland chiropractor, yesterday awaited a Superior Court hearing on his writ of habeas corpus to determine his fate after being accused of manslaughter, hit-run and criminal negligence by a coroner's jury, but not formally charged by police. The coroner's jury, sitting at the

(Continued on Page 28)

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THE medicinal value of the glands of internal secretion was not recognized.

But times have changed, as well as cattle. Now, the therapeutic value of certain gland products is definitely established and each year adds to our knowledge in this important field of therapeutics.

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This delicious food-drink is high in caloric value—rich in Vitamin D—easily digested and quickly assimilated. Mixed with milk as directed, it adds 70% more food-energy value. It increases the protein content 50%, carbohydrate content 170%, calcium content 35%, phosphorus content 70%.

Cocomalt is accepted by the Committee on Foods of The American Medical Association. Prepared by an exclusive process under scientific control, Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Vitamin D (irradiated ergosterol). (30 Steenbock—81 U.S.P. revised—units of Vitamin D per ounce of Cocomalt.)

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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245
Laryngoscope 1935 XLV, 149-154
N. Y. State Jour. Med. 1935, 35—No. 11,590★

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CHRISTMAS 1935

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The National, State and Local Tuberculosis Associations of the United States

BOARD OF MEDICAL EXAMINERS

(Continued from Page 26)

inquest into the death of John de Masse, sixty, 505 Clay Street, Oakland, found Doctor Monheit had driven his car into de Masse as the latter was crossing the street at Tenth and Clay streets, Oakland. De Masse was killed and the driver of the car that struck him, after leaving the car to look at the body, drove away. Doctor Monheit, arrested after investigation of the accident, won his freedom on $2,500 bail Monday. . . ." (San Francisco *Chronicle,* October 10, 1935.)

Some Historical Aspects of Tuberculosis.—In the long roster of ailments to which human flesh is heir none has a more baffling history than tuberculosis. It is still one of the important mysteries of modern medicine. No specific cure for it has yet been discovered, although considerable knowledge has been assembled bit by bit through the ages by a list of men that reads like a "Who's Who" of the medical profession of past centuries. It is a curious fact that many of these great physicians had tuberculosis at some time in their lives and that several of them died of it.

As one studies the course of this malady, one is confronted with a strange paradox. The tubercle bacillus in the human body gives rise to two distinct manifestations: the depletion of physical energy and the stimulation of mental activity. In those who are endowed with exceptional mental qualities and are at the same time suffering from tuberculosis, there often seems to be a strange psychic stimulus to creative accomplishment, In some indi-

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viduals only the vision of death brings a consciousness of "the divine reality of life." It seems reasonable to say that the progress of medicine has been largely dependent on the stimulus of this dual influence.

Exhumed skeletons of prehistoric periods which bear the marks of tuberculosis provide our earliest record of the existence of the disease. The Code of Hammurabi, written more than 2,000 years B. C., indicates a possible knowledge of it. Aretaeus, in the first century A. D., gave accurate clinical descriptions of tuberculosis and suggested routine treatment similar to that employed today. Galen, the famous Roman physician of the second century, preserved the teachings of the Greek, Hippocrates, "father of medicine," and recorded his own observations. He was one of the first to employ climate in the treatment of tuberculosis, recommending the balmy zones immediately surrounding Vesuvius. No doubt Galen periodically

(Continued on Next Page)

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(Continued from Preceding Page)

came under the spell of the disease. He reports having had two physical breakdowns before he was twenty.

The period of the Dark Ages was characterized by twelve centuries of lethargy resulting from a combination of religious prejudices against the opening of the dead human body and a static condition of existing knowledge. The works of Aristotle, Hippocrates, and Galen furnished the foundation for the renaissance of medicine in the fifteenth century, but no significant progress occurred until Sylvius, in the seventeenth century, gathered up the lost threads and added his work on the pathology of tuberculosis. Sylvius, it is thought, suffered from the disease. He stressed the importance of anatomic tubercle in the lungs and pointed the way for all great clinical teachers.

Not until 1761, a hundred years after Sylvius, can another genuine advance be recorded. Then came Auenbrugger "knocking at the human thorax." He is responsible for the fact that your doctor taps on your chest and listens to the sounds produced when you go for a physical examination. This was one of the most important discoveries in medicine, especially in diseases of the chest. Auenbrugger's publication describing the procedure he invented, called "percussion," is considered one of the greatest books in the history of medicine and marked the beginning of a new era.

Fifty years later Laennec (1781-1826), a young Frenchman, put the cause of diagnosis forward with unprecedented rapidity. When he came upon the scene, the diagnosis of diseases of the lungs and heart was more difficult than that of any other internal organ. He revived and amplified the use of auscultation (listening to sounds within the chest) and assured his fame forever by inventing the stethoscope. With remarkable industry and conspicuous discrimination, he drew up a minute history of nearly four hundred cases of disease before he was twenty-two years of age. These carefully tabulated case histories served as a foundation for his future researches

(Continued on Page 34)

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CALIFORNIA AND WESTERN MEDICINE

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EDITOR . . . . GEORGE H. KRESS

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Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this Journal write to its office requesting a copy of this leaflet.

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EDITORIALS[†]

GREETINGS FOR THE CHRISTMAS SEASON AND NEW YEAR

Official Journal Joins with President Robert A. Peers and Officers in Extending Season's Greetings.—CALIFORNIA AND WESTERN MEDICINE, as the official publication of the California and Nevada Medical Associations, voices its good wishes for joyous Christmas days and a happier New Year to each and every member of these two state medical societies.

Such wishes must always be associated with happiness that accompanies interesting and joyful occupation; for work is a blessed thing, and especially so, when of a kind such as the important and, ofttimes, vital personal service constantly being rendered to lay fellows by the men and women who make up the profession of medicine. But even those who thus work must also live, in order to serve to best advantage.

Since 1929, the economic depression has measurably affected world governmental and other policies, resulting in radical changes and departures from previously-accepted outlooks and standards. Inspection of charts and the figures of board of trade organizations, and also welfare bodies, shows how great have been these variations in many lines of activity.

Sickness and death statistics, however, during the last six years of economic and other changes have not greatly altered, and it follows, therefore, that physicians are today doing practically the same amount of professional work as before the onset of the present "hard times." Unfortunately, too, the money compensation received for services generously rendered, when charted, reveals a curve far from alluring: frequently much below what it should be, and only too often inadequate for the professional work done.

When, then, in contrast, one reflects upon the evidence of easy money, as seen in high prices and yet the comparatively enormous attendance at such places of entertainment as theatres and football games, and even in cafes and shops that purvey personal apparel and accessories, the thought arises that somewhere, somehow, in these troublous times, thousands of lay citizens, not altogether without means, have assumed a new attitude toward their physicians: they seem to believe that medical attention and protection should come to them at little or no cost. In any event a large number of persons apparently think that financial accounts due physicians can be put aside for consideration only after the desires for all other personal comforts, such as clothing and automotive pleasures, have been fully gratified.

[†] Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

All of which makes for hardship to physicians and their own families. It is much to the credit of medical men and women, therefore, that, under these adverse and disheartening conditions, there has been no letting-down in the quantitative or qualitative character of services rendered to lay fellows, although many times physicians have known beforehand that, for much of their work, there will be little recompense other than thanks, and in some cases, perhaps, not even that. However, this very knowledge of duty well done should afford physicians, everywhere, real Christmas cheer. And as for the New Year of 1936, it is to be hoped that it will bring far more remunerative and happier days, than has been experienced by thousands of medical men and women in the last five or six years.

So again, at this festive time, California and Western Medicine, on behalf of all the members of the California and Nevada Medical Associations, takes pleasure in extending, for the coming season of Merry Christmas, the customary greeting to every other member, and also in expressing the heartiest wishes for prosperity and happiness in the coming New Year.

C. M. A. QUESTIONNAIRES: ON TAX-SUPPORTED HOSPITALS AND MEDICAL SERVICES

Special Committee Appointed to Collect Needed Information: Component County Societies Should Respond Promptly.—California and Western Medicine, in its issue for July, 1935, printed the minutes of the Yosemite session of the House of Delegates, and, on page 62, a resolution introduced by Dr. L. A. Packard of Kern County, providing for the appointment of a special committee to study and report on tax-supported hospitals and medical services in California.

This special committee, consisting of Dr. Axcel E. Anderson of Fresno, Councilor of the Fourth District, chairman; Dr. Louis A. Packard, Bakersfield, secretary, and Dr. E. Earl Moody, Los Angeles, has sent to each component county medical society in California three questionnaires containing in all a total of ninety-one different questions. Depending upon population and other local conditions, regarding some of the questions submitted, pages could easily be written. And, we may add, such reports would redound to the profit of both investigators and hearers.

* * *

Questionnaires Are Printed in This Issue.—The complete questionnaires appear in this issue (page 459).

These blanks were sent to county society secretaries, and request was made that each component county unit deputize a committee to promptly gather the needed facts and figures for its respective district; and it is to be hoped that every society has at least done that much to forward the work.

Each member of the California Medical Association should appreciate the importance of cooperating with the State Association Committee in securing this much-needed information, which has such an intimate relationship to trends in present and future private practice.

An inspection, indeed, of the questions, reveals the magnitude of the important work which the committee is trying to do. Without any desire to criticize, it may be stated that if a poll of the five thousand members of the California Medical Association were to be taken on their ability to answer the queries with even an average degree of accuracy, it is doubtful if more than one member in five, or ten, would be able to qualify. Yet the economic, professional and social welfare facts desired should be familiar to every practicing physician. It may be added that, in similar problems before business organizations, it is quite probable that not 10 or 20 per cent, but 70 to 80 per cent of the members would be able to qualify. Business men make it their business to attend to their business!

* * *

Members Are Urged to Study the Questionnaires.—Members are urged, therefore, to read the questionnaire's queries as presented on the page cited above. They are worthy of perusal because they are thought stimulating, and their consideration will make for alertness in observation of the activities mentioned. Owing to the individualistic nature of medical practice, mass observation and study (with unity of thought on matters affecting the profession, but outside the limits of private professional work), is to be noted only on those rare occasions when a special menace confronts medical practitioners. Even within the ranks of organized medicine, the number of members in a county medical society who consistently maintain an active interest in problems of general medical policy is quite limited.

* * *

County Societies and Members Should Coöperate with the Committee—Doctors Anderson, Packard and Moody, having prepared such excellent questionnaires on matters of vital importance, should receive a wholehearted support in their efforts to gather long-lacking, but much needed information concerning tax-supported hospitals and medical activities; in keeping with which the Council expresses the wish that every component county society will do its part. If action has not already been taken by any local society, and a suggestion is in order, it may be recommended that at the next meeting these questionnaires be read and commented upon, question by question. Such an informal exchange of opinion would be as valuable as a scientific paper, and quite as enlightening; since members would then better appreciate the bigness and the importance of this study—which the House of Delegates at this year's Yosemite session instructed the State Council to submit to the component county societies.

REFERENDUM ON PROPOSED QUALIFYING CERTIFICATE (BASIC SCIENCE) INITIATIVE LAW FOR CALIFORNIA

Proposed Qualifying Certificate Law Was Considered in the November Issue.—The first editorial in last month's California and Western Medicine discussing some of the provisions in the draft of a qualifying certificate (basic science) law, as referred to the Council of the California Medical Association by its special committee, contained the essential sections of a proposed law to be submitted to the electorate as an initiative on the ballot sheet of the November, 1936, state election.

At the meeting of the Council held in San Francisco on November 2, when a report was made by the special committee concerning the procedures necessary in the submittal of an initiative, the best methods of obtaining the requisite 200,000 signatures were explained, and also the expenses involved, inclusive of the publicity needed to insure the passage of such a law.

The report was carefully considered by the Council, as noted in Item 15 of the Council minutes printed on page 448 of this issue. At Yosemite, in May of the present year, the House of Delegates had cast a unanimous vote in favor of a qualifying certificate (basic science) law, which endorsement in itself was construed as a mandate to the Council. However, because of the amount of expense involved, the Council felt that it would be proper to give the 5,000 members of the Association an opportunity to express their personal reactions to the proposed law; and by unanimous vote of the Council, a referendum to the membership was ordered, the time fixed for closing the ballot being two weeks after the date of mailing. The referendum postcard contained an announcement and a return ballot card, reading as follows:

* * *

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street
San Francisco, California

REFERENDUM NO. I

November 12, 1935.

To Association Members:

The Council, conforming to a resolution of the 1935 House of Delegates favoring a Qualifying Certificate (Basic Science) Act, has received the report of the Special Committee on this Act, commented upon in the November California and Western Medicine (on page 321).

The Council now submits to all members the question as to whether it shall direct the Committee to draft a law, secure the necessary signatures to an initiative petition, and attempt to secure enactment of the law by initiative ballot at the November 1936 election.

Time is important. Members are urged to register their desires by an immediate return of the attached card.

Signed: The Council of the California Medical Association,
Robert A. Peers, President
F. C. Warnshuis, Secretary
George H. Kress, Committee Chairman.

* * *

California Medical Association, Referendum, 1935

REFERENDUM NO. I

To the Council:

I record my answer to the Referendum.

Do you favor that the Council shall instruct the Association's special committee to secure a Qualifying Certificate Law by initiative at the 1936 November election, and to that end expend for signatures, postage and clerical expenses approximately $35,000 of the Association's reserve funds? Yes ☐ No ☐

Signed..

Address..

County..

Detach and Mail Before November 16, 1935

* * *

Results of the Referendum Vote Not Known at This Writing.—At the time of this writing, we do not know the trend of the voting. If the members vote in favor of submitting such an initiative law in November, 1936, the special committee, under the direction of the Council, will proceed with promptness in the preparation of the final draft of the law, and will take the other necessary steps to give it a place on next year's state election ballot sheets. If, however, the members do not vote in favor of submitting such an initiative law at the present time, the special committee and Council will continue their studies of the subject for report to the House of Delegates at the San Diego meeting in May, 1936.

* * *

Later: The Association Members Cast a Five to One Vote in Favor of the Qualifying Certificate Initiative.—On the day the galley proofs of the December issue reached the editor, he received a letter from Association Secretary Warnshuis that the vote (with more than 2,000 ballots cast), was running about five to one in favor of a qualifying certificate law. It may be of interest, also, that in these first ballots that were cast, the proportion in favor in Los Angeles County was as 13 to 1, in Alameda County, as 4 to 1, and in San Francisco County as 3 to 1.

QUESTIONNAIRE POLL OF C. M. A. MEMBERS: ON HEALTH INSURANCE

California Medical Association Takes a Poll of Physicians on the Subject of Health Insurance.—Item 9 of the Council minutes of its November 2 meeting mentions the attendance of a committee from the Sacramento Society, whose members, at the September 7 meeting of the Council, were requested by the Council to present a questionnaire relating to the taking of a poll of all licensed physicians in California holding the M. D. degree, as to their approval or nonapproval of certain types of health insurance.*

The text of a questionnaire post card (not yet mailed at this writing) has been prepared and may contain the following queries:

1. Shall the California Medical Association endorse any legislative change in the present system of medical practice? *Yes. No.*

(If your answer to No. 1 is "No," do not answer No. 2 and No. 3.)

2. Are you in favor of compulsory health insurance? *Yes. No.*

3. Are you in favor of voluntary health insurance? *Yes. No.*

(If your answer to No. 3 is "Yes," answer (*a*), (*b*), and (*c*).

(*a*) Voluntary health insurance under a plan carried on by the State of California? *Yes. No.*

(*b*) Voluntary health insurance carried on by lay companies under legislative control? *Yes. No.*

(*c*) Voluntary health insurance carried on by some form of organization of licensed physicians of California created by legislation? *Yes. No.*

4. Are you a member of the California Medical Association? *Yes. No.*

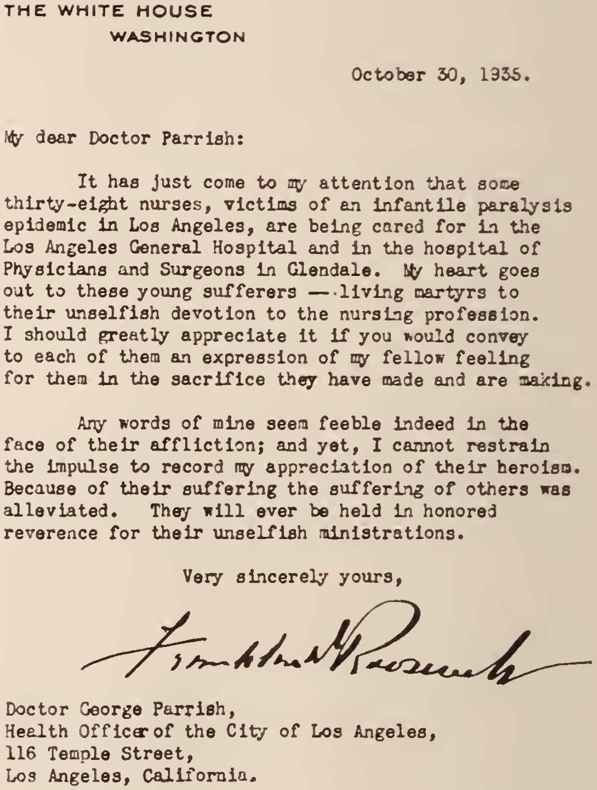
* * *

A Full Vote Should Be Cast.—What the ballots will reveal to the officers and members of the California Medical Association, we do not know. The attention of members is called to the questionnaire because it is important that as large a vote as possible may be secured. The officers of the Association should certainly know the reaction of its members, and, in the present instance, also the points of view of licensed doctors of medicine in California who do not hold membership in the California Medical Association. Members are urged to send in their ballots, after receiving and considering the questionnaire, as promptly as possible.

TRIBUTE TO LOS ANGELES NURSES BY PRESIDENT FRANKLIN D. ROOSEVELT

A Deserved Tribute.—In a recent conference, Dr. George Parrish, Health Officer of the City of Los Angeles, showed the editor a copy of the letter given below, in which President Franklin D. Roosevelt, himself a victim, as is well known, of poliomyelitis, pays deserved tribute to those who, like good soldiers, in the outbreak of that disease in Los Angeles County, in 1934, bravely carried on their duties in the Los Angeles County Hospital at great risk to themselves; an important suggestive fact attested by the large number of nurses still invalided.† CALIFORNIA AND WESTERN MEDICINE gladly reproduces in facsimile President Roosevelt's words of appreciation, and commends their consideration to the Honorable Board of Supervisors of Los Angeles; for today that Board has the responsibility as well as the power of properly caring for those afflicted nurses who, in a time of exceptional stress, and under most overcrowded and disheartening conditions, rendered such valiant service to the citizens of Los Angeles County.

The letter of President Roosevelt is as follows:



THE WHITE HOUSE
WASHINGTON

October 30, 1935.

My dear Doctor Parrish:

It has just come to my attention that some thirty-eight nurses, victims of an infantile paralysis epidemic in Los Angeles, are being cared for in the Los Angeles General Hospital and in the hospital of Physicians and Surgeons in Glendale. My heart goes out to these young sufferers — living martyrs to their unselfish devotion to the nursing profession. I should greatly appreciate it if you would convey to each of them an expression of my fellow feeling for them in the sacrifice they have made and are making.

Any words of mine seem feeble indeed in the face of their affliction; and yet, I cannot restrain the impulse to record my appreciation of their heroism. Because of their suffering the suffering of others was alleviated. They will ever be held in honored reverence for their unselfish ministrations.

Very sincerely yours,

Franklin D Roosevelt

Doctor George Parrish,
Health Officer of the City of Los Angeles,
116 Temple Street,
Los Angeles, California.

SYLVATIC PLAGUE IN CALIFORNIA

Distribution of Plague Among Wild Rodents of the Pacific Coast.—In the current number of CALIFORNIA AND WESTERN MEDICINE appears an article by Dr. K. F. Meyer, Director of the Hooper Foundation for Medical Research, University of California, in which he outlines, in quite an interesting manner, how far afield—both geographically and scientifically—the investigations of the distribution of Bacillus pestis infection have taken both Federal and State health authorities. In previous issues this subject has been considered several times, references to articles in this JOURNAL having been printed on page 265 of the May, 1934, magazine; the June number of the same year containing an article on "Selvatic Plague—Its Present Status in California"—a paper submitted at that time in response to our request.

In the article by Meyer and Eddie on page 399, the authors use the preferential spelling, "sylvatic" of the Oxford Dictionary instead of "selvatic"; the word sylvatic or selvatic referring to plague as found in wild rodents, in contrast to plague as observed in rats, domesticated as it were, in rural or urban centers of human population.

---

* See October issue, page 305, item 27, and this issue, page 447, item 9.

† See November issue, on page 388, for letter of District Nursing Association, regarding stipends and care given to nurses still incapacitated because of poliomyelitis.

Sylvatic Plague as Found in California Counties: Kern, Tulare, Modoc, Lassen and San Luis Obispo.—The authors' discussion of the rather extensive distribution of sylvatic plague in different districts of California might be alarming were it not for the fact that, at the same time and in these same infested districts, only two human cases of plague were seen in 1934, and none, thus far, in 1935. The Federal, State and other authorities, upon whom devolves the responsibility of combating the spread of plague among the wild rodents (squirrels, rats and mice)—for it is from these lower animal reservoirs that an extension into populated districts may come—are to be congratulated for their careful studies concerning the foci of infected areas, and on the means taken to bring about the limitation and eradication of the disease. It must be remembered that the complete list of animals (mammals) that can act as supplementary hosts to the Bacillus pestis is yet to be worked out, although the authors call attention to instances pointing to cottontail and jack rabbits as belonging to the group of supplementary hosts.

* * *

Why This Report on Sylvatic Plague Is of Significance.—Meyer and Eddie's report of the studies and surveys of sylvatic plague in California makes interesting reading for physicians, and especially so, when the serious outbreaks of human plague in California—San Francisco, 1900 to 1904 (bubonic plague); San Francisco and Oakland, 1907 and 1908 (bubonic plague); Oakland, 1919 (pneumonic plague); and Los Angeles, 1924 (pneumonic plague)—are kept in mind.

In the present era of generous spending by the Federal Government on survey projects of all kinds, it would seem quite proper that some funds were allocated to carry on investigations and studies making possible for the United States Public Health Service and the California State Board of Health to possess more extensive and accurate knowledge of this disease; which knowledge, should the plague again break out in metropolitan centers such as the San Francisco Bay region or Los Angeles, may well be of great value to help prevent immediate money loss running into hundreds of thousands of dollars, with however, remote ill results of even greater amount. It is gratifying to know that in spite of somewhat limited funds and personnel it has been possible to make so careful a survey and report as that which is printed in this issue.

CORPORATIONS CANNOT PRACTICE MEDICINE IN CALIFORNIA

Opinion of Judge C. J. Goodell of San Francisco.—In last month's issue, on page 324, comment was made on the opinion recently handed down by the Hon. C. J. Goodell of the Superior Court of the City and County of San Francisco, in which that jurist reaffirmed the legal principle that corporations cannot practice medicine in California. Through Dr. C. B. Pinkham, secretary of the Board of Medical Examiners of the State of California, we have been able to secure a copy of Judge Goodell's memorandum-opinion and this will be found in the Special Articles section on page 460.

Its perusal, in connection with the opinion rendered by the Hon. Charles E. Hughes, Chief Justice of the Supreme Court of the United States, given on page 389 of last month's issue, is commended to all members of the California Medical Association.

* * *

Opinion of Judge Hartley Shaw on Chiropractic-Naturopathic.—In the same Special Articles department of this number is also printed an illuminating opinion concerning some legal limitations of chiropractic and naturopathic practice. Readers of this journal may find that opinion likewise of interest. (See page 463.)

Other State Association and Component County Society News.—Additional news concerning the activities and work of the California Medical Association and its component county medical societies is printed in this issue, commencing on page 444.

EDITORIAL COMMENT[†]

DANGERS OF SKELETAL TRACTION

The appearance upon the market today of numerous pieces of excellent apparatus for the treatment of fractures justifies a word of warning against the indiscriminate use of skeletal traction by every doctor who has purchased one of these new gadgets.

No one will deny that great progress has been made in the treatment of fractures during the past decade. The World War demonstrated the value of immediate splinting and early traction in fractures of the long bones, and popularized the now indispensable Thomas splint. The more liberal use of the roentgen ray, the organization of fracture clinics in our large teaching hospitals with their follow-up clinics, the demands of industrial insurance carriers for less permanent disability from fractures and the growing menace of malpractice suits, have all contributed to this keener interest on the part of the profession and have resulted in better treatment of fractures.

Better mechanical aids were a natural outgrowth of this widespread interest in the fracture problem. It is more generally appreciated now than formerly that restoration of normal anatomical relationship is desirable, and that it usually results in earlier union of the bone, and better and fuller function of the injured extremity. Few conscientious men are now content with poor anatomical reduction of a major fracture.

[†] This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentations should be over five hundred words in length.

Skeletal traction has been the inevitable outcome of this desire to obtain anatomical reposition of the bone fragments. The heavy ice-tongs and Steinman pins, popular a few years ago, have in large measure been replaced by the lighter piano wire, introduced by Kirschner, with its minimum amount of foreign body. Several ingenious mechanical devices that are a great aid in the reduction of fractures of the long bones have recently appeared and are now flooding the market. Some of these are based on sound principles and possess real merit. In the hands of an intelligent and mechanically minded doctor such apparatus is a great aid in obtaining mechanical reduction of difficult fractures of the long bones.

The average doctor, however, especially in the smaller cities and towns, when shown this type of apparatus by a clever salesman, is soon convinced that he can solve all his fracture problems. The commercial exhibits at the state medical meeting remove all doubts as to the necessity of this type of treatment and the doctor buys a skeletal traction apparatus. He forgets that, as the late Dr. E. H. Nichols so aptly stated, the problem is more than that of gluing a broken chair-leg, for the skin, muscles, nerves, blood vessels, and lymphatics surround the bone, and frequently the soft tissue injury transcends in importance the injury to the bone.

It must not be forgotten, too, that the use of skeletal traction converts a simple fracture into a compound one, and enough emphasis is not being placed today upon the dangers inherent in the method. Doctors must learn that pins and wires should not be inserted indiscriminately through injured tissues, and that strict attention must be given to skin antisepsis. If skeletal traction is to be used, it must be constantly kept in mind that no foreign body should be inserted into any bone without adequate skin sterilization. Pins and wires should go through normal, healthy tissue, and never be inserted into devitalized, traumatized tissue. Antitetanic and gas gangrene serum should always be given, as in any compound fracture.

Within the past year the writer has seen two unfortunate results from failure to observe the fundamental surgical principles in the use of skeletal traction. One patient with a comminuted fracture of the os calcis, accompanied by considerable bruising and abrasions of the soft tissues of the lower leg and foot, had a steel wire inserted through the devitalized, ecchymotic area within twelve hours of injury. No attempt was made to reduce the fracture by manipulative means, and insufficient time was given for the soft tissues to regain their normal state. Severe infection developed, with sloughing of most of the tendons of the lower leg and foot, accompanied by an osteomyelitis of several bones of the foot. The osteomyelitis is still active ten months after the injury.

The other patient, who had a simple fracture of both bones of the forearm, had skeletal traction inserted without adequate skin preparation or the use of anaerobic serum. Gas gangrene developed, and amputation of the right arm above the elbow was necessary to save the patient's life.

Skeletal traction, when properly applied, is a great aid in replacing and holding fractured bones in anatomical position. Its dangers must be recognized and sound principles not forgotten, or disaster will result.

1515 Chapala Street.

Francis M. Findlay,
Santa Barbara.

THE TREATMENT OF FRACTURES OF THE FEMORAL NECK

The management of central or intracapsular fracture of the femoral neck will always be difficult, because of the age at which they occur and the great tendency to nonunion.

The old policy of neglecting the fracture, to "save the patient," would seem to defeat the very purpose for which it is employed. The severe and constant pain produced by movement in the fracture, inflicted upon an already feeble patient, often produces a degree of exhaustion which readily leads to pneumonia.

Primary shock having been alleviated, immediate reduction and adequate retention is imperative. The necessary manipulation, consisting of traction, abduction and internal rotation (Whitman), can usually be done under local or spinal anesthesia. A properly applied plaster cast, cut away in front to the anterior superior spines laterally, and to the symphysis medially, allows the patient to assume a semi-sitting position, to exercise and be turned on his sides or abdomen at regular intervals. An almost immediate cessation of pain is the gratifying and important result. Check-up x-rays should include a lateral study in addition to the usual posterior stereo.

This method of treatment represents a great advance over the "neglect the fracture, save the patient" régime, but has the disadvantages of prolonged immobilization and an incidence of nonunion of about 50 per cent.

It is now some ten years since Smith-Petersen of Boston devised his triflanged metal pin for fixation of these fractures. His original technique for placing the pin necessitated wide exposure of the hip-joint, thus limiting its field of usefulness. Sven Johansson of Göteberg has recently suggested an extra-articular method of placing the pin, which is so simple and atraumatic that it can be used on the feeblest of patients.

The patient is placed on the orthopedic table, spinal or local anesthesia given, the fracture reduced in the usual way and x-rays taken. The great trochanteric region is exposed through a short incision parallel to the shaft, and two or three stainless steel wires are introduced in a horizontal plane so angled as to pass through the neck into the head. Posterior and lateral x-rays are now taken, and if improperly placed, the wires are withdrawn and reintroduced. A Smith-Petersen nail, with a canalized head, is now threaded on to the most appropriately placed wire, and driven into the neck and head of the femur. The three flanges on the pin necessarily prevent rotation of the fragments and are so thin that necrosis of the cancellous bone does not occur. Postoperative fixation in plaster is unnecessary.

Active motion of hip- and knee-joints can be started in a few days, and the patient gotten up on crutches in an incredibly short period of time.

Up to the present time, Smith-Petersen* has applied his original method of treatment and the Johansson method to seventy unselected patients, their ages varying from ninety-two to fifty years. At the present time firm bony union with good function has been obtained in 70 per cent of cases.

It can be truthfully stated that progress is being made in the treatment of fractures of the neck of the femur.

Stanford University School of Medicine.

Don King,
San Francisco.

INFANT FEEDING

During the past ten years the undersigned has noted with dismay and trepidation the increasing extent to which the general practitioner is recommending the use of various proprietary foods for the infant. While he has no fault to find with many of these foods, he fears that too many of his colleagues prescribe them without a definite knowledge of their composition or their particular applicability to a given feeding problem.

Under the circumstances, he thinks it is perhaps opportune to again direct attention to certain fundamental qualities that must be considered in the evaluation of any infant food:

1. The food should be palatable.
2. It should be clean: (*a*) Free from dirt. (*b*) Free from pathogenic organisms. (*c*) Reasonably free from nonpathogenic organisms.
3. It should be suited to the digestive tract of the infant.
4. It should contain in ample quantity the important elements necessary for the growth and development.
5. It should not be easily contaminated after delivery for use.
6. It should be within the purchasing power of the consumer.

The doctor, in attempting to select a food for the infant, should possess definite criteria by which he may form some judgment as to the value of any and all foods. In the undersigned's opinion any food that meets the standards above set forth is a suitable food for the infant.

1930 Wilshire Boulevard.

Oscar Reiss,
Los Angeles.

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* Personal communication to the author (July, 1935).

ORIGINAL ARTICLES

SYLVATIC PLAGUE IN CALIFORNIA*

DISCUSSION OF ITS EXTENT IN THE YEARS 1934 AND 1935

By K. F. Meyer, Ph.D.
and
B. Eddie, M.A.

Discussion *by H. E. Hasseltine, M.D., Bristol, Vermont.*

In a previous report [1] certain phases of the plague problem as they affect California have been briefly sketched. Although subsequent developments to be detailed have clearly pushed a number of persistent questions into the foreground and have, in part, changed the outlook, the B. pestis infection of wild rodents continues to play the leading rôle in the Pacific States of the Union. Despite a widespread reservoir of rodent disease, only two (possibly three) human cases of plague have been recognized in 1934, and none in 1935. Obviously, the interest must by necessity focus on the disease in the rodents. Without an adequate understanding of this infection, it will be impossible to forecast the future developments and to institute protective measures of value. There is certainly no need to proclaim in sensational statements the prevalence of so-called "bubonic plague" in the West. Such designations convey to the medical and non-medical reader the idea that human plague, "the fearful unknown," has assumed undue proportions. This is decidedly contrary to facts.

The interdependence of rodents to human plague is fully known and amply appreciated. In fact, the various possibilities have been previously mentioned and illustrated by examples chosen from the plague history of California. In order to guide future investigations and to inform those immediately concerned with the various problems, it is deemed appropriate to review the observations made during the past twelve months. Thus, an opportunity may be afforded to outline some of the studies which should be undertaken. The reservoir of plague sustained by fleas is either in the wild rodents or in the rat population. By custom and tradition, the B. pestis infection among the domesticated representatives of the rodent family "muridae" is always described as rat plague. On the other hand, a similar malady among the species belonging to families sciuridae, heteromyidae, muridae, caviidae, and jaculidae is known as wild rodent plague, or preferably termed, *sylvatic plague.*[†] [2]

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* From the George Williams Hooper Foundation, University of California, San Francisco.

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[†] This descriptive word first proposed by Jorge as "peste silvatique" (Off. Int. d'Hyg. Publ. 19: 1287, 1927), or "peste selvatique" (Off. Int. d'Hyg. Publ. 19: 1271, 1927 and 25: 450, 1933), was then adopted by Stallybrass (The Principles of Epidemiology, London, p. 310, 1931) as "selvatic" plague. According to the Oxford dictionary, the designation sylvatic or silvatic (also selvatick, after the Italian word, "selvatico"), must be given preference over the word, "selvatic," which has priority right.

Since mammals other than squirrels have been found to harbor virulent plague bacilli, the designation "squirrel plague" is fully inadequate. It will be the task of future investigators to study the epidemiology [not epizoötiology, see Taylor[3]] of B. pestis infection throughout the susceptible animal kingdom. By stressing the squirrel as the principal or sole host, the investigations of the past have probably overlooked many significant phases. Even a superficial inspection of the list of rodents known to suffer from spontaneous plague other than the domestic rat and mouse, as published by Wu Lien Teh,[4] emphasizes the diversity of hosts for the plague bacillus. In South Africa at least nineteen different rodents have been spontaneously found to be plague-infected.[5]

THE SITUATION IN 1934 IN KERN AND TULARE COUNTIES

In 1933 the State Department of Public Health was advised concerning an increased mortality among squirrels in the Lynn Valley near Glenville, Kern County. During July and September, 1,083 squirrels were killed by the survey crews in the suspected area, but the cause of the mortality was not determined at that time. In March, 1934, the owners of ranches lying in an area of six square miles, both in Kern and Tulare counties, approximately thirty miles north and east of Bakersfield, and approximately sixteen miles east of Delano, Kern County, noted a great many dead squirrels. An immediate survey by the plague crew established, by gross and laboratory examinations, the existence of acute septicemic and subacute sylvatic plague. In Kern County, during the months from March till June, 5,317 squirrels (4,022 shot; 1,279 dead) were dissected, and plague was demonstrated in 118 (2.2 per cent). No infection was recognized in 500 rats trapped in and around Bakersfield. In Tulare County 4,075 (3,148 shot; 927 dead) squirrels were examined and plague lesions with positive cultural findings established in ninety-three (2.9 per cent). Kangaroo rats (168) that had been poisoned were found to be non-infected. Throughout the area surveyed, the squirrel population was very heavy. As a result of the survey activities, which covered approximately 2,421 square miles or 1,528,440 acres, it is believed that the plague-infected area lies between the following geographic landmarks:

Beginning eleven miles north of Bakersfield it extends in the north several miles within the Tule River Indian Reservation; on the east inside the United States Forest Reserve, approximately thirteen miles east of Granite Station, spreading toward the west within two miles west of Jasmine Station. The territory covers approximately 896 square miles or about 553,440 acres. The Agricultural Commissioners, in coöperation with the State Department of Agriculture, the United States Forestry Service, and the United States Biological Survey, instituted well-planned and extensive control measures covering an area of approximately 1,267 square miles. A resurvey made in July has shown that the squirrel population throughout the entire area has been greatly reduced, and the menace to Public Health has been, for the time being, practically eliminated.

In June, 1934, a ten-year-old schoolboy from Porterville visited a ranch (ten miles beyond White River in Posy Creek Country) on which plague-infected squirrels had been found, and contracted bubonic plague. He died from chronic plague meningitis on September 22, 1934. This observation leaves no doubt that chronic latent plague may occur in man, and thus suggests a number of very important inquiries into the human carrier problem.

The investigators, who have analyzed the outbreak of sylvatic plague in this new area, are of the opinion that the infection was spread through the migration of diseased squirrels from the mountain regions to the lowlands, and contact with the highly susceptible young squirrel population developed the 1934 epidemic. For many years similar outbreaks of rodent mortality, though not so severe as the one of 1934, have been reported to have occurred in the mountain sections in both Kern and Tulare counties. The nature of these deaths has never been proved, but it is reasonable to suspect sylvatic plague. Future surveys in the foothills of the Sierra Nevada, and in particular a study of the immunity of the rodents for plague, will furnish data to support or refute this interpretation which has been given to the event of 1934.

THE SITUATION IN 1934 IN MODOC COUNTY

Representatives of the United States Biological Survey engaged in the distribution of poison on Government lands in Modoc County observed dying and dead squirrels on ranches north and east of Alturas. A survey, made early in June, 1934, proved the existence of plague-infected squirrels in the Joseph Creek district, Fandango Valley, and the Fort Bidwell Indian Reservation. In an area of approximately 65,000 acres, fourteen new plague foci were located. The examination of 971 Oregon ground squirrels [(Citellus oregonus Merriam), 519 shot, 270 found dead, and 182 poisoned] revealed fifty, or 5.1 per cent, infected with B. pestis. One rodent presented lesions of tularemia. One of six wood rats (Neotoma ?) presented an acute plague infection. Since the rodents resumed hibernation, further investigations had to be deferred until spring, 1935. A protective area of about 256,000 acres was outlined, and control activities were carried out under a coöperative arrangement between the United States Biological Survey, the United States Forestry Service, the State Department of Agriculture, Modoc County, and the land owners. The recognition of an entirely new focus of sylvatic plague in the northern-eastern section of California, and in a new species of squirrels (Citellus oregonus), was decidedly alarming. Inquiries have disclosed the interesting fact that at periodic intervals over many years, epidemics have appeared in the squirrels of Modoc County. A high mortality has also been noted in the state of Nevada. The bacteriological confirmation of a case of human plague at Lake View, Oregon (May 16, 1934), supports the reports that squirrel plague has existed for some time in the southern part of Oregon. In the past, the epidemic mortality among squirrels was attributed to tularemia, and consequently systematic investigations were not instituted. The surveys thus far failed to indicate the routes which introduced sylvatic plague into Modoc County. It is not unlikely that the invasion occurred from the North and is in no way connected with the principal area of squirrel plague south of the San Francisco Bay region (Sacramento) located in the Coast Ranges. In any event, the Modoc focus has apparently no relationship to the Tulare-Kern squirrel epidemic.

OBSERVATIONS IN 1935

In April, 1935, shortly after the first squirrels returned from hibernation, the survey activities were resumed in Modoc County. New areas of sylvatic plague were recognized in localities which extend from the city of Alturas on the east to Canby Bridge on the west, and extend over a district of approximately twenty-three miles in length and an average width of three miles. The area in which infected rodents were found covers 132,840 acres; in general, it is level and consists, in some instances, of meadow and cultivated land. It is bordered on the north and south by brush-covered, rolling hills. The population is concentrated chiefly in Alturas (approximately two thousand persons) and Canby (approximately fifty). The remainder of the area is very sparsely settled and contains probably not over thirty-five inhabitants. An area of 254,440 acres was carefully surveyed by the plague investigation crew, and a total of 6,311 squirrels and other rodents have been autopsied. Plague lesions with positive cultural and animal findings were made on 107 Oregon squirrels, four wood rats, and one field mouse. In the infected area, 1,492 squirrels [1,424 shot; 68 dead exclusive 198 carcasses (undoubtedly dead from plague)] were autopsied and sylvatic plague established in 107 [7.1 per cent (inclusive carcasses—18 per cent)]. Aside from plague, tularemia was recognized in a squirrel shot at Perez Station (thirty-nine miles northwest of Auturas-Modoc National Forest). A survey of the areas recognized as plague foci in 1934 failed to indicate a recurrence of the disease among rodents.

As soon as the existence of sylvatic plague had been proved, the Agricultural Commissioner, in coöperation with the State Department of Agriculture, the United States Biological Survey, and the United States Forest Service, instituted active control measures. A five-mile squirrel-free zone was created around the cities of Alturas and Canby. In this connection, it is of interest to note that a careful investigation disclosed a complete absence of rats in the city of Alturas. The hazard of urban plague conveyed by wild rodents through the agency of rats is, therefore, non-existent.

Already, in 1934, it was observed that the abandoned homes, mostly wooden shacks or cabins, invariably housed a diverse fauna of dead and living rodents. Careful inspections have, therefore, been made and valuable as well as suggestive findings have been secured. For example, in a cabin located on the F. L. B. ranch, twelve miles west and four miles south of Alturas, a fresh carcass of a male white-footed field mouse (*Peromyscus truei gilberti*) was found with lesions of plague (liver necroses, and pleural effusions) and cultural findings of B. pestis. A subsequent inspection disclosed seven dried-up carcasses of the same species in the nests. Judging by the location and appearance of the mummified mammals, the reasonableness that these rodents died from plague is great. Eight guinea-pigs, exposed as flea sentinels two months after the discovery of the infected mouse, remained well for a period of three weeks. No fleas were found on the guinea-pigs at the time of autopsy.

In another cabin located on an infected ranch near Rattlesnake Creek, carcasses of meadow mice, white-footed mice, wood rats, and cottontail rabbits were located under circumstances which strongly suggest sylvatic plague as the cause of death.

Equally significant are the observations made in a test-tunnel excavated in connection with an irrigation project of the South Fork Water District on the D. R. V. L. ranch in the West Valley, near Likely. A dead female wood rat (*Neotoma cinerea occidentalis*) found in this structure presented the lesions of acute plague, and a strain of B. pestis highly virulent for guinea-pigs and rats was isolated. The three baby wood rats found beside the mother were not infected. On the Morgan ranch, three miles north and four miles west of Adin, 50 per cent of the Oregon squirrels were found to be infested with a trichocephalid nematod (Hepaticula hepatica).

LASSEN COUNTY

As a sequel to the interest which was created by the intensive survey and control activities in Modoc County, a number of ranchers reported the finding of dead Oregon squirrels in various small valleys located in the northern section of Lassen County. These meadow lands are orographically connected with the sylvatic plague foci of Modoc County. Thus far, 35,840 acres have been surveyed and in a series of 198 squirrels examined, three (1.5 per cent) were found infected with B. pestis. Sylvatic plague has, therefore, been proved to exist in the Chase and the Ash valleys. Further surveys are in progress and will be required for several seasons in order to establish the extent of sylvatic plague in this county. In any event, it is important to realize that, with the advance of the survey activities in a southerly direction, new foci have been recognized. Certain important observations made in the Ash Valley will be reviewed below. The districts proved to harbor infected squirrels have been the subject of thorough control measures.

SAN LUIS OBISPO COUNTY

This county has been infected for many years; between January, 1927 and 1930, forty plague-infected squirrels were found on various ranches.

Active control measures carried on by county and state officials were effective, and no plague-infected rodents were discovered between 1931 and April, 1935, when one infected squirrel at autopsy revealed typical plague lesions with positive bacteriologic findings. Intensive hunting operations failed to demonstrate further infection on the same area, but located one infected Citellus on another ranch.

On May 23, 1935, an inspector ran across an intermediate wood rat (*Neotoma lepida intermedia* Rhoads) which apparently had died shortly before it was found. On autopsy, the pleural cavities contained considerable fluid and the inguinal lymph nodes were enlarged and injected. A pure culture of B. pestis, which was highly invasive for rats and guinea-pigs, was isolated. This accidental finding of a new species of wood rat in the acute septicemic stage of plague at the head of the Garcia Canyon, which connects the ranch proved infected in April, is of more than passing interest in the light of the observations made in Modoc County. Although the territory was thoroughly searched by trapping 110 wood rats and twenty-eight field mice, the survey even failed to find additional infected rodents. Again, attention must be called to the lack of knowledge concerning the mechanism of spread and persistence of sylvatic plague in the rodent population of California. Indeed, it is imperative that some steps be taken to determine, if in any way practical, the various mammals which serve as supplementary host for the B. pestis. It is well known that the young California ground squirrels migrate locally so as "to establish new homes for themselves." These relatively limited excursions can hardly explain the gradual invasion of sylvatic plague into remote new localities. On the other hand, mass migration of mice and rats under adverse environmental conditions are by no means uncommon and have been reported. However, no accurate information concerning this important phase of sylvatic plague in California is available.

OREGON AND MONTANA

The United States Public Health Service has conducted systematic surveys in the State of Oregon. According to recent published reports[6] plague infection was proved in the Columbia and Oregon squirrels (Citellus oregonus and Citellus columbianus) found dead or shot (?) in Wallowa and Grant counties, Oregon. Of greatest importance is, unquestionably, the demonstration of plague in a ground squirrel received from Dillon, Beaverhead County, Montana.

Thus, sylvatic plague has crossed the Pacific States and has appeared in the Rocky Mountain States. How far it has traveled in an easterly direction has not as yet been determined. The surveys in this direction will be awaited with interest.

SPECIES OF RODENTS INFECTED

Through the cordial coöperation of Mr. E. T. Ross, Chief, Bureau of Sanitary Inspection, and his investigators who are attached to three fully equipped field laboratories, carcasses of rodents other than squirrels have been submitted for identification[7] and for study of plague infection. Despite the fact that the intensive operations in Modoc and Lassen counties merely permitted a humble attempt to investigate spontaneous plague in rodents other than Oregon squirrels, the results have been very valuable. Three new species of rodents have been conclusively proved to be spontaneously infected with B. pestis. They are:

1. Gilbert white-footed mouse, *Peromyscus truei gilberti* (Allen), Modoc County.
2. Western bushy-tailed wood rat, *Neotoma cinerea occidentalis* (Baird), Modoc County.
3. Intermediate wood rat, *Neotoma lepida intermedia* (Rhoads), San Luis Obispo County.

In this connection it is recalled that McCoy and Smith[8] recognized, as early as 1910, the wood rat (Neotoma fuscipes) to suffer from spontaneous plague. Experimentally, the same workers have proved the susceptibility of other rodents.

During an inspection tour, the presence of an unusually large number of carcasses of jack or cottontail rabbits in an area known to be heavily seeded with sylvatic plague attracted attention. Unfortunately, the remains of these Leporidae were unsuitable for bacteriologic investigations. Since tularemia is quite common in Modoc and Lassen counties, it is reasonable to associate the rabbit mortality with this malady. However, this explanation is not applicable to the situation in the Garcia Canyon. Further studies are obviously in order.

INAPPARENT PLAGUE IN SQUIRRELS

In a series of sixty-four Oregon squirrels submitted by the investigation crew, forty-six were found naturally infected with plague. Of these, thirty-two had been found dead, while fourteen had been shot. In using the classification originally established by McCoy,[9] the thirty-two dead squirrels revealed the lesions of acute plague; two of the shot rodents were also in an acute stage of the disease, while the remaining twelve indicated their infection by subacute tissue changes. Necrotic areas in the lymph nodes, with occasional necroses in the liver, were the only noteworthy markings. The suggestive microscopic findings were invariably confirmed by cultures on blood-plates and subsequent agglutination tests with a highly potent rabbit B. pestis antiserum. In case these procedures failed to yield a pathogenic microörganism, the tissues were pocketed in guinea-pigs. Thus, two squirrels were proved to harbor the plague bacillus although, microscopically and culturally, the tissues appeared to be free from these bacteria.

While surveying the suspected areas in Lassen County, the investigation crew shot, in the Ash Valley, thirty-six squirrels. A personal postmortem examination by one of the authors (K. F. M.) led in the Oregon squirrel to the recognition of a form of plague thus far not recorded in connection with the plague studies in California.

The carcasses were in an excellent state of nutrition; the subcutaneous tissue was not injected, and the liver, spleen, and lungs were grossly normal. There was, however, a generalized slight lymphadenopathy. The inguinal, iliac, axillary cervical, submaxillary, and even the mediastinal lymph nodes, were slightly enlarged, firm and grayish in color. Necroses or suppurative lesions were entirely absent. Even serial sections failed to reveal minute focal inflammatory reactions. Microscopically, either no bacteria or a few rods (contaminants) were seen; the cultures revealed cocci, diphtheroids, and occasional B. coli. The blood serum failed to agglutinate a strain of B. pestis isolated in the same region. In a series of three squirrels selected for further study, a guinea-pig, which received segments of the lymph nodes of one squirrel, subcutaneously, died ten days later with gross lesions of plague. The cultures prepared from the heart-blood and spleen were mixed with various organisms. A fragment of the guinea-pig's spleen was, therefore, rubbed on the skin of a second animal. It died on the fourth day with the lesions of plague, and a pure culture of B. pestis was isolated and identified from the heart-blood.

The customary routine examination of the carcasses, and the usual laboratory tests would have classed this squirrel as non-infected. At the present stage of the plague investigations, this error is of little consequence, since in the area in which squirrels with inapparent plague were recognized, two rodents with definite acute and subacute plague had been autopsied. Furthermore, the magnitude of the task to locate and to delimit the infected areas throughout the State imposes on the investigation crews and the laboratory such a burden that refinements in study must be reserved for a period when more money and assistance are available. The accidental discovery of latent plague—a stage in which the plague bacillus leads a symbiotic existence in the squirrel host—is, however, of great scientific interest for the following reasons:

(*a*) Inapparent plague, or a B. pestis infection without visible lesions, was first established for the rat by McCoy, then by Williams[10] and, according to Long,[11] in South America has also been recognized by Nicaronoff[12] in the susliks of South Russia. This form of plague is probably the continuation of acute plague and may perhaps help to preserve the virus during the off-seasons. However, the majority of investigators maintain that "carriers" of plague, or even rats with resolving lesions, are *per se* of no importance in spreading the infection. On the other hand, the period of hibernation to which some wild rodents suffering from natural plague are subjected, is an indispensable link for the preservation of both the plague bacillus and the species. Recent studies by Russian plague experts,[13] and in particular by Wu Lien-Teh on the Siberian tarabagan, leave no doubt that the malady is carried along from season to season through latent infections. Susliks (Citellus fulvus) and tarabagans inoculated with virulent plague bacilli before hiberation may survive and harbor the bacilli at the site of inoculation or in the regional lymph nodes. Apparently, the physiologic inactivity during hiberation is holding the virus in abeyance. Since the Oregon squirrel hibernates for at least six months, it is not unlikely that the same mechanism may be operative. The entire subject of latent squirrel plague deserves careful experimental study.

(*b*) In view of the finding of plague in mice, the recognition of "carriers" by Koltzov,[14] who grew B. pestis from the organs though no macroscopic signs were noticeable, is equally of interest.

(*c*) McCoy[15] has shown that the healthy squirrels in sylvatic plague-stricken localities were found quite resistant to infection with B. pestis, while in plague-free areas the rodents were uniformly susceptible. This immunity may mean a gradual extinction of the disease, or the partially resistant latent infected race of rodents may perpetuate the disease for many years. It is, therefore, not difficult to understand why plague persists among the California rodents.

(*d*) Finally, the recognition of a partial immunity, as indicated by instances of inapparent plague in certain localities, may furnish some leads relative to the origin and the past history of sylvatic plague in the Warner Mountains of northern California. Until the susceptibility of the Oregon squirrels to plague has been studied, it is probably inappropriate to speculate, although the recognition of latent squirrel plague on the Alpine meadows of Lassen County suggests that the disease has prevailed for many years. In fact, it may have existed "in the hill tracts" from time immemorial. Just as the endemic foci of wild rodent plague in the vast Central Asian plateau escaped recognition until quite recently (1907 and 1911), so the existence of a disease in the rodents of Modoc County would have remained unknown without the operation of fortuitous circumstances. In a sparsely populated country the accidental human infections are so rare that the existence of the virus may remain unrecognized even to the most advanced public health organization. The student of plague history may find fascinating analogies between the old and present plague foci. He doubtless will not dismiss entirely the thought that the Asiatic plateau, the original home of plague, was once linked via the Behring Straits, the Aleute Chains and Kuro-Schivodrift and, therefore, geomedically connected the transference of contagious diseases with the North American Continent. Furthermore, he is doubtless familiar with the controversies pro and contra, the endemicity of plague in Aestrakhan-Persian focus. For a long time Russian observers contended that plague in those regions was imported, and blamed the pilgrims, the camels, and even water-fowls devouring plague-sick rats and harboring their fleas temporarily, for the outbreak of bubonic plague. However, it was finally ascertained that three species of rodents, a spermophilus, a large jerboa, and a microtus, were the actual carriers of plague. Finally, the student will appreciate that actual facts relative to sylvatic plague in the Pacific Coast states are quite meager and, consequently, are readily made the subject of unwarranted speculation by those who are not familiar with the epidemiology of animal diseases.

PROBLEMS TO BE INVESTIGATED

Foregoing observations have shown that protective and eradicative measures instituted by the California State Department of Public Health, and the State Department of Agriculture, have accomplished the desired goal—prevention of human plague. However, in order to protect localities and counties from a progressive invasion of sylvatic plague in a manner like that which has happened in South Africa, it is imperative that carefully planned investigations and research be instituted at an early date. Among the many problems which suggest themselves, one may mention a few:

(*a*) Ascertain the various wild rodents involved in sylvatic plague and the rôle played by each.

(*b*) Study the part played by the different species in (1)perpetuating and (2) spreading plague infection.

(*c*) Careful survey of rodents and their habits as regards burrowing, nesting, migration, and emigration; variations owing to droughts, etc.

(*d*) Fleas and ectoparasites of rodents and associated animals.

(*e*) Life history and bionomics of different species under natural conditions; breeding and feeding habits.

(*f*) Conditions favoring flea multiplication and prevalence; hibernation and migratory habits from deserted burrows.

(*g*) Mechanism of persistence of plague infection.

(*h*) Serum reactions in rodents.

(*i*) Comparative experimental susceptibility to plague of various rodents and associated animals.

(*j*) Mechanism of natural infection; number of flea bites required to produce infection; types of disease; period of infectiveness and latency.

(*k*) Natural enemies of rodents; methods of encouraging multiplication.

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DISCUSSION*

H. E. Hasseltine (Medical Director, United States Public Health Service, Bristol, Vermont).—The authors have given a comprehensive presentation of plague activities in California in 1934 and 1935. It was my privilege to have visited the Kern-Tulare, Modoc-Lassen, and San Luis Obispo areas when the California State Department of Public Health was carrying on its investigations. The extent of the infection in these areas has been stated by the authors, but there are many features that cannot be adequately comprehended until they are seen personally. The terrain includes flat-tilled, or tillable, land, some of which has growing crops upon it; rough and rocky foothills; and mountainous regions, with steep slopes and numerous canyons. Parts of the plague-infected areas are on irrigated lands, while other parts are on drought-stricken pastures, where it hardly seems possible for any animal to live.

In spite of all these conditions the California State Department of Public Health, the State Department of Agriculture, and the United States Biological Survey, working in coöperation, have produced excellent results in the Kern-Tulare area, as shown by a resurvey in 1935. I feel that they will show equally good results in the Modoc-Lassen area when a resurvey is completed there. In this latter area they are limited to a comparatively short season of active operations, due to the hibernating habits of the Oregon ground squirrel.

In the plague-infected areas described in the paper presented, it will be noted that rodents found dead from some unexplained cause have played a major rôle in the discovery of the infection. From reports of unexplained mortality in rodents the United States Public Health Service have come the clues that led to the discovery of rodent plague in Oregon and Montana. Herein lies a lesson for the medical profession. When rodents die from unknown cause in any community the medical profession should remember that possibly the epizoötic may be due to a cause that may also infect man. The profession, therefore, should at least report it to their health authorities, or perhaps send specimens to a well-equipped laboratory, with as complete information as they can gather. I might go even further by saying that such reports need not be limited to rodents. In recent years we have added to our list of diseases of man a considerable number that infect one or more species of lower animals. It serves as a reminder that man is but another species belonging to the animal kingdom. Any unexplained unusual mortality in any animal species is worth investigating.

The authors refer to the numerous rodents found in and around abandoned buildings. In California there are many such buildings in rural sections, and such buildings increase the hazard of rodent-borne diseases to all who may occupy them temporarily in time of storm or other emergency. Particularly does this apply to sheep herders, cattle men, and sportsmen.

The list of problems submitted in the last paragraph of the paper indicates the vast field that rodent plague offers to the investigator. We have recently obtained information that causes us to question some of our former conclusions as to plague infection in rodents, and suggest the desirability of again going over the same ground in the light of recent findings. Our investigations in Oregon, as well as those in northeastern California, indicate that rodent plague has been present there for a considerable, but unknown, period. About twenty years ago Modoc County was surveyed, with negative results. Was the infection there in an inapparent or latent state and missed by the investigators, or has it been introduced since? If the latter, whence did it come and how did it travel? The answer to these and many other similar questions will require prolonged and painstaking investigations along many lines of research.

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* See also in this issue, page 458 for letter from Doctor Hasseltine, and list of references to plague articles.

AIR-CONDITIONING*

ITS RELATION TO UPPER RESPIRATORY INFECTIONS

By M. N. HOSMER, M.D.
San Francisco

THE subject of air-conditioning has become a popular one in recent years, but, strangely enough, its popularity has been developed by ventilating engineers and not by physicians. From a technical standpoint I think it should still belong to the engineers, because the complex formulae they must use in solving difficult problems would baffle most of us. I do believe, however, that we should become more familiar with what is being done so that we may assist in the proper installations for various conditions.

EARLY OBSERVATIONS ON AIR-CONDITIONING

The first experimental work on air-conditioning was done in 1750 by Pilcet, who showed that the breathing of air by animals reduced the oxygen content and increased the carbon dioxid content. He theorized that eventually air in rooms would be devitalized to such an extent that it would not support life, and this was a perfectly sound theory, if the vitiating of air was carried on to a point where the predicted results could be obtained. But the practical application was not carried out to the point where it would show that, in the usual conditions encountered, this condition was rarely found. From the carbon dioxid and similar theories, the scientists arrived at the amount of fresh air that was needed to keep the carbon dioxid content below the supposed danger line.

These practices continued until the time of Le Blanc in 1842, and others, who disclaimed the old theory and maintained that it was not the carbon dioxid that caused the feeling of discomfort and drowsiness. Von Pettenkoeffer advanced the theory that the air was fouled in crowded spaces by organic substances, either exhaled or exuded from the bodies of the persons present. This theory was never proved, and as a result the original theory of carbon dioxid poison and the controlling of air to prevent it alone was the general practice in ventilation.

RECENT ADVANCES IN AIR-CONDITIONING

At the annual meeting of the American Society of Heating and Ventilating Engineers, in 1911, Guelich and Evans denounced ventilation as it was then practiced. They blamed the physiologists and the doctors who, they said, could not agree on just what air conditions were desirable for the maintenance of health and comfort.

From that time until quite recently the installation of air-conditioning equipment has followed many courses, and the entire subject has been in a state of chaos. Now the old prejudices have been broken down, and air-conditioning is proceeding on a scientific basis.

While it is known that organic odors may produce nausea, loss of appetite and general malaise, the ill effects ascribed to impure, confined air are due, not so much to the chemical impurities in the air as to the physical properties, such as increased temperature, higher percentage of humidity and stagnation of the air surrounding the body.

LACK OF FRESHNESS IN AIR

Up to the present time, proponents of air-conditioning have failed to discover the cause of deadness or lack of freshness in the air. Two theories are advanced: one, the effect of ionization, and the other, the effect of ozone. Little is known at present regarding the ionization of air. Ions are produced by solar radiation, cosmic rays and radio-active changes in the soil. In unoccupied rooms the ionic content is about the same as outside air. In occupied rooms there is a marked decrease in the ionic content, which state prevails until the occupants leave the room, when the percentage immediately increases. Air-conditioning apparatus produces a definite decrease in the ionic content of the air. These facts may account for the lack of freshness in conditioned rooms.

Ozone is triatomic oxygen usually produced by a high-tension electric discharge. It is very unstable, and for that reason was thought to oxidize the impurities of the air. The usual concentration in nature is from .02 to .04 parts to one million. A concentration of .06 parts per million is necessary to be distinguishable to the sense of smell, and four parts per million is definitely irritating to mucous membranes. Inasmuch as a concentration of five hundred parts per million is necessary for germicidal use, the futility of ozone machines, as air purifiers, is readily seen.

AIR-CONDITIONING: ITS DEFINITION

Air-conditioning has been defined as the science of controlling the temperature, the humidity and the purity of the air, and its movement within closed spaces.

Air is considered a mechanical mixture, of which the main constituents are oxygen and nitrogen in the proportions of one to four. The other constituents are certain inert gases, such as helium, nitrone, argon and neon, and carbon dioxid. This last is always present in practically the same percentage, and is necessary for the growth of flora. Water vapor, though present in the air, is not a constituent of air.

Engineers have worked out what is known as a psychiometric chart to determine the percentage of moisture in the air. It takes into consideration the differences in temperature of the wet and dry bulb thermometers, and the results are expressed as percentage of humidity or relative humidity. Instruments have been devised that will measure the relative humidity within a reasonable degree of accuracy.

PRESENT-DAY MECHANICAL APPARATUS FOR AIR-CONDITIONING

Apparatus has been developed which will produce any desired atmospheric condition. Air can be cleaned, heated, cooled, humidified, dehumidified, and circulated. This apparatus may be a central unit, which will condition an entire building or a small unit for a separate office or hospital room. These machines have been perfected to a point where the relative humidity and temperature can be maintained at any desired point, and almost all of the pollens, etc., removed from the air, which is supplied.

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* Abstract of a paper read before the Pacific Coast Oto-Ophthalmological Society at the annual session in Portland, May 20, 1935.

With such machines at their command, the engineering profession is asking us, as medical men, what conditions we desire for our hospitals and patients. How shall we answer their questions, or is there a real need for air-conditioning in our hospitals, offices, and homes?

EFFECTS OF SUDDEN TEMPERATURE CHANGES

Mudd, Grand and Goldman, in 1921, in a series of experiments on humans, demonstrated that chilling of the body surface caused reflex vasoconstriction and ischemia in the mucous membranes of the nasal cavity and postnasal space, etc. They thought that this ischemia might cause a lowering of the local resistance, which would allow infection to occur. During the course of their experiments, ten of the subjects developed acute colds and sore throats, and an interesting change in the bacterial flora was noted.

Their experiments have been borne out by the sickness records in industry. Men who worked at trades where there were frequent sudden temperature changes are known to suffer more from upper respiratory diseases than in other trades. Most outstanding in this group are the steel workers, who labor for short periods in high temperatures and then cool off in rest periods.

HOW ATMOSPHERIC CHANGES AFFECT THE DEVELOPMENT OF PREMATURE INFANTS

Blackfan and Yaglou, in 1933, studied the effects of atmospheric conditions on the growth and development of premature infants. They compared the results of seven years' work in the conditioned nursery with the results of the three years previous to the installation of the system. They had one unit which maintained a low humidity, and another which maintained a high humidity. The general net mortality rates from acute upper respiratory infections showed a remarkable difference in the three nurseries. In the old, unconditioned nursery the percentage was 26.5 as compared with 9.7 per cent in the low relative humidity nursery, and zero per cent in the high relative humidity nursery. The mortality rate from all causes was 28.9 per cent in the unconditioned nursery; 14.9 per cent in the low relative humidity nursery, and 0.7 per cent in the nursery with high relative humidity.

To me, the most interesting part of their work has been the definite decrease in the percentage of respiratory infections in the infants kept in the nursery having the high relative humidity. The percentage relative humidity used was 65, with a temperature of 75 to 100 degrees Fahrenheit.

HAY FEVER AND POLLEN ASTHMA

The effect of conditioned air on hay fever and pollen asthma has been studied by many. It has been found that, while commercial filters as now manufactured are not 100 per cent perfect, those that remove all but traces of pollens will relieve symptoms of hay fever. Relief of symptoms was usually noted within ten to fifteen minutes after entering the conditioned rooms, and after two hours no evidence of the disease was found. Returning to the pollen-laden air immediately caused recurrence of the symptoms. Relief from pollen asthma was not gained as quickly as it was in those suffering from hay fever. The subjective symptoms of asthma diminished in a few hours, but the objective evidence disappeared less rapidly.

THE COMMON COLD

Kerr and Lagan, in their studies of the common cold, found that they were unable to infect a normal person so long as that person was in a properly conditioned room. The room used was kept at a relative humidity of 55 per cent, and a dry-bulb temperature of 70 degrees Fahrenheit. Twenty-eight normal subjects were inoculated with material from the nasal passages of patients suffering from severe acute colds, and none of them contracted colds or showed any symptoms referable to a cold. The series is a small one, but the results shown are certainly striking.

Rowe has found that the patients having hay fever or pollen asthma show definite improvement when placed in air-conditioned rooms. He uses a relative humidity of 40 to 45 per cent, and feels that the dryness is of assistance in the asthmatic particularly.

AIR-CONDITIONING INSTALLATIONS BY RAILROADS AND THEATERS

The railroads and theaters are installing air-conditioning from a comfort standpoint alone, and have found that their business has been increased considerably. They are using a humidity of around 50 per cent, and maintaining the temperature at about 10 to 15 degrees Fahrenheit below the outside temperature in the summer time, and around 70 degrees Fahrenheit in the winter time.

NEED OF AIR-CONDITIONING IN OFFICES, HOSPITALS, AND HOMES

I feel that there is a definite need for conditioned air in our offices, homes, and hospitals. Of course, it is not possible to have everyone in conditioned rooms every hour of the day. We can, at least, condition our offices and homes, or parts of them, and we certainly should have conditioned air in the hospitals.

COMFORT ZONES

The engineers have worked out what is known as a comfort zone for average individuals in winter and summer. In summer they found that a temperature of 71 degrees Fahrenheit and a relative humidity of 40 to 60 per cent was comfortable for most people. In winter the temperature was slightly lower at 66 degrees Fahrenheit, and a relative humidity from 40 to 50 per cent was most satisfactory. These data are applicable to normal individuals, who occupied the rooms for long periods of time as, for example, when in an office or home. If one is working out a comfort chart to be applied for short periods of time, the temperature and humidity must vary with the outside conditions, so that the shock of the sudden change will not be too great when passing from one place to another.

IN CONCLUSION

Each individual patient we see will present entirely different requirements for the conditions of the air to be supplied. The results shown by the various investigators, whom I have quoted, show this to be the case. For example, the nursery for the premature infant should be maintained at a relative humidity of from 60 to 65 per cent, and a temperature of from 80 to 100 degrees Fahrenheit, depending upon the age and weight of the patient. The asthmatic, on the other hand, responds much more quickly if the relative humidity is kept at 40 per cent. The patient who has a stuffy nose in an atmosphere of high relative humidity responds nicely to a humidity of from 48 to 50 per cent, and a temperature of about 68 degrees Fahrenheit.

In the extremely dry climates of the interior of our western states it will be necessary, at times, to add water to the air circulated to increase the humidity. Patients in these regions frequently complain of the extreme dryness and irritation of the mucous membranes of the nose and throat.

Our hospitals should be conditioned by the unit system so that individual rooms, or groups of rooms, can be maintained at any desired state. They can accommodate, in this way, any type of patient that may require care.

I have endeavored to outline, briefly, the subject of air-conditioning as it has been developed by the leading ventilating engineers. Its value in the management of diseases of the upper respiratory tract has been shown by many investigators. I hope this paper will serve as a stimulus for all of us to become more conscious of the atmospheric environment of our patients in the future.

384 Post Street.

POLIOMYELITIS*

IN VITRO NEUTRALIZATION TESTS, USING NORMAL ADULT AND CONVALESCENT HUMAN SERUMS

I. INTRODUCTION

By Beatrice F. Howitt, M.A.
San Francisco

Discussion *by K. F. Meyer, Ph. D., San Francisco.*

During the outbreak of poliomyelitis in northern California in 1934, serum was collected both from patients who had recovered from the disease, and from so-called "normal" individuals. The pooled convalescent serums were given therapeutically to the active cases, four to twelve persons contributing toward each mixture. The pooled serums from adults having a negative history of poliomyelitis were used prophylactically for contact cases, eight to sixteen individuals contributing toward each of these.

The use of normal serum has been founded on the observations of numerous workers, who have estimated that between 70 and 80 per cent of the normal adult urban population possess neutralizing antibodies for the poliomyelitic virus. Based on these reports, and those of Davide [1] and of Flexner and Stewart,[2] for the prophylactic use of convalescent serum, Moro,[3] in Germany, suggested that "normal" adult serum, or the whole blood, should be administered prophylactically to young children in an epidemic. This type of passive immunization was used by Brebner [4] in the United States during 1932.

The normal serum collected in 1934 for the outbreak in northern California was divided into two classes, one obtained from the medical staff of the University of California Hospital and the other from outside volunteers. It was thought that members of the staff might have had greater opportunities for exposure to poliomyelitis and, therefore, possess more antiviral substances in their blood than the average adult. Serum was also collected from a group of professional donors who might be called on for direct transfusions if they proved suitable.

To determine the relative values of these several groups, *in vitro* neutralization tests were made on many of the normal and the convalescent pools, respectively, as well as on individual serums. The results will be presented, even though many workers have reported upon observations of a similar nature. All such data, however, may prove valuable as an aid in directing the course of public health policy during an epidemic or a time of sudden emergency.

II. METHODS

All neutralization tests were carried out with a standard dilution of 5 per cent cord suspension of a monkey passage virus kindly sent by Dr. M. Brodie of the New York University. Suspensions made from the same cord mixtures of one group of monkeys was used as the stock virus throughout all the different experiments over a period of several months. The 5 per cent suspension, made fresh about once a month, lightly centrifugated, maintained about the same degree of potency throughout this period, the M. L. D. being approximately a dilution of 1-800 or 0.00125 cubic centimeters. The standard amount used for the tests was a 1-25 dilution (0.04 cubic centimeters) or about 32 M. L. D. As many tests as possible were performed at one time for better purposes of comparison. Equal parts of the 5 per cent diluted virus, and the pools or single serums were mixed, placed at 37 degrees centigrade for two hours, and then kept overnight in the ice-box before injecting 1.5 cubic centimeters of each intracerebrally into monkeys, according to the method of Shaughnessy, Harmon and Gordon.[5] No preservative was put in the serums.

III. NORMAL ADULT SERUMS

Because of the high incidence of poliomyelitis among the older age groups (35.41 per cent) in

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California, the endeavor was to accept blood of normal volunteers only from those individuals over thirty or thirty-five years, presuming that immunity increased with age.

As shown in Table 1, individual serums were tested from twenty-six normal professional donors varying in years from twenty-three to forty-six, averaging thirty-one. The undiluted serum of seventeen (65.3 per cent) neutralized the virus, while nine, or 34.7 per cent, failed to do so. Nine of ten serums proved potent in a dilution of 1-10, and six out of nine in a 1-40. The one serum tested at 1-80 failed to neutralize.

These figures are fairly in agreement with those given by Schultz and Gebhardt[6] for San Francisco (56.2 per cent), and are nearly the same as those presented by Weyer, Park and Banzhaf[7] for New York City (66.6 per cent), although Jungeblut[8] gives a lower value (56.6 per cent) for the latter. Most of the other reports show higher percentages for urban populations.

Of the normal pooled serums, five were mixtures from the medical staff and six from adult outside volunteers. In the first group, four pools contained four individual serums each and one had seven, while in the second, three pools contained eight serums each, two had thirteen, and one had sixteen. The average age incidence was thirty-five years for the first group, and thirty-nine for the second. All serums neutralized when undiluted. Four of each group were also positive when diluted 1-10. Upon further dilution the pools from volunteers seemed to be slightly weaker, although one of each went to 1-60, while none was positive at 1-80. These figures ran slightly higher than those given by Jungeblut[8] for normal pools. It also showed that there was practically no difference in potency between the supposedly better grade pools of serum than those chosen at random from the adult city population. However, there was a larger average number of individuals in each of the latter pools.

IV. POOLED CONVALESCENT SERUMS

Comparison was made with eighteen pools of convalescent serums chosen at random from adults and children having had the disease at varying periods. These contained from seven to eleven different serums, but several had only two or three. All except one neutralized when undiluted. The negative one was composed of only two serums, so that it could hardly be classed as a real pool. Eight serums were titrated further (Table 1), but failed to show quite the degree of potency as given by the normal serums. Of eight diluted 1-40, five (62.5 per cent) failed to neutralize, while of nine normal pools only two (22.2 per cent) were negative at this dilution.

This somewhat decreased strength shown for the convalescent serums is also in agreement with the recent work of Jungeblut,[9] but contrary to that of Brodie,[10] who found the normal serums weaker in New York. It would conform, however, with reports given by Howitt,[11] and by Paul and Trask,[12] for poorly neutralizing individual convalescent serums.

TABLE 1.—*Neutralization Tests on Normal and Convalescent Serums**

Type of Serum	Undiluted Serums			Dilutions of Selected Serums or Pools																		
				1-5			1-10			1-20			1-40			1-60			1-80		
	Total Number	+	0	Total Number	+	0	Total Number	+	0	Total Number	+	0	Total Number	+	0	Total Number	+	0	Total Number	+	0
Individual normal	26	17 (65.3%)	9 (34.7%)	..	..	..	10	9	1	1	0	1	9	6	3	..	..	..	1	0	1
Individual convalescent	18	12 (66.6%)	6 (33.3%)	5	3	2	12	7	5	5	3	2	12	5	7	..	..	..	..	..	..
Pooled normal	House staff 5	5 (100%)	0	..	..	.	5	5	0	..	..	..	4	4	0	1	1	0	1	0	1
	Outside volunteers 6	6 (100%)	0	1	1	0	5	5	0	..	..	..	5	3	2	1	1	0	2	0	2
Pooled convalescent	18	17 (94.4%)	1 (5.6%)	1	1	0	8	5	3	..	..	..	8	3	5	5	3	2	2	0	2

* +=Neutralization.
0=No neutralization.

TABLE 2.—*Neutralization tests on Selected Groups of Serums**

Series	Selected Pools or Serums	Number Tested	Dilutions of Pools or Serums			
			1-5	1-10	1-20	1-40
I Pools	House staff over 35 years	1	....	+	....	+
	House staff under 35 years	1	....	+	....	+
	Normal adults over 35 years	1	....	+	....	+
	Normal adults under 35 years	1	....	+	....	+
II Pools	Convalescent in 1934	1	+	....	+	....
	Convalescent for two years	1	+	....	+	....
	Convalescent for four years	1	+	....	+	....
	Convalescent for ten years	1	+	....	+	....
	Convalescent for twenty years	1	+	....	0	....
	Convalescent over twenty years	1	+	....	+	....
III Individual	Convalescent in 1934	2	One + One 0	....	One + One 0	....
	Convalescent for four years	1	+	....	+	....
	Convalescent over twenty years	2	One + One 0	....	+	....

* +=Neutralization.
0=No neutralization.

V. COMPARISON OF SELECTED POOLS OF NORMAL SERUMS

Comparison was made of selected groups of serums from normal adults. Six were pooled from normal outside volunteers, and six from members of the medical staff over thirty-five years of age. A similar number was also pooled from the two groups of those under thirty-five years, but not below twenty-five. As shown in Table 2, all neutralized the standard dose of virus in a dilution of 1-40, again demonstrating the comparable effectiveness of the normal pooled serums.

It was also interesting to note that of two laboratory workers having had intimate contact with the poliomyelitic virus over a period of years, the serum of one neutralized in a dilution of 1-40 but not 1-80, while that of the other failed to neutralize even undiluted.

VI. SELECTED GROUPS OF CONVALESCENT SERUMS

To determine the potency of convalescent serums when pooled from individuals after varying periods of recovery, selections were made from different groups convalescent for a few months and for 2, 4, 10, 20, and over 20 years, respectively, as shown in the table. All except the serum of twenty-year duration neutralized in 1-20 dilution, even after a forty-year recovery.

Five individual serums were tested in the same way, two from recent convalescents in 1934, one from a patient recovered four years and two over twenty years. One of the recent serums failed to neutralize, while one was potent in a 1-20 dilution. Of the serums from older cases, both neutralized in a 1-20, although one failed in a 1-5 dilution.

It was interesting that the nonpotent serum of 1934 also failed to neutralize a recently isolated strain of virus obtained during the late outbreak. It was likewise found that unpreserved serum from a convalescent case was still potent after storage in the ice-box for one year and six months, while a second one lost its efficacy only after storing two and one-half years.

Serums were selected from two groups of convalescent patients, one having been given serum treatment during the attack of poliomyelitis and the other not having received it. All the individuals chosen were over eighteen years of age and had acquired the disease from several months to twenty years previously. Neutralization tests were performed both on the undiluted serums, and when diluted to a maximum of 1-40. As shown by Table 3, the results were fairly comparable for each group. Four out of seven (57.1 per cent) neutralized in the series given convalescent serum, while six out of nine (66.6 per cent) were positive in the untreated series. The advantage was more in favor of the latter group, both when undiluted and in the different dilutions. In comparing the total number of individual convalescent serums tested in a 1-40 dilution with those of the normal group in like dilution, the advantage lies with the normal serums, six out of nine (66.6 per cent) showed positive neutralization when diluted 1-40, while only five out of fourteen, or 35.7 per cent, were positive in the recovered group.

VII. DISCUSSION

The results of this small series of neutralization tests again indicate that the use of normal pooled adult serum from an urban population is justified in an epidemic of poliomyelitis. Potency tests in monkeys show an equal if not greater average degree of neutralizing ability among the positive so-called "normal" groups than among those recovered from the disease. However, since only a certain percentage of the urban population possess antiviral substances, individual serums chosen at random should not be relied upon for potency without a preliminary test in monkeys. On the other hand, normal serums pooled in groups of not less than ten or twelve persons apparently can safely be used in the central Californian region without previous testing.

Although there has been discussion, upheld by experimental data, to show that the strain of virus employed in the *in vitro* neutralization test may influence the outcome, yet if the same virus is similarly employed throughout the different series, comparative results should be of value, even

TABLE 3.—*Neutralization Tests on Serums of Convalescent Patients**

Serum Treatment	Patient	Serum Dilutions				
		Undiluted	1-5	1-10	1-20	1-40
Given	G. F.	0	0	....	0	....
	J. N.	+	+	....	0	....
	R. N.	+	0	....	0	....
	A. H.	0	0	....	0	....
	R. B.	+	....	+	....	+
	G. L.	+	....	+	....	+
	M. A.	0	....	....	....	....
Not given	W. H.	+	0	....	....	....
	M. C.	+	....	....	....	+
	H. B.	+	....	+	....	0
	R. G.	+	....	+	....	+
	H. M.	+	....	+	....	0
	A. F.	0	....	0	....	0
	J. O'R.	0	....	0	....	0
	M. H.	+	....	+	....	+
	A. J.	0	....	0	....	0

* +=Neutralization.
0=No neutralization

though the percentage of positives may have differed when using a recently isolated or a "passage" strain of virus. This question of the desirability of using various strains has recently been ably discussed by Paul and Trask.[12]

Because the *in vitro* neutralization test has been the usual criterion for judging the potency of a serum, one would feel justified from the results here given in recommending the administration of normal adult pooled serums collected at random from urban dwellers over thirty-five years of age. It would, of course, be of more advantage to have on hand a list of tested donors whose serums could be pooled in periods of emergency, or who could be used individually for direct transfusions. From the data available one would have more confidence in the potency of normal adult serums selected from an urban population than in those collected from an average group of convalescent cases, mostly children. These observations are in accord with those of Jensen[13] in regard to the therapeutic use of serums in poliomyelitis. This author reports that, during the Danish outbreak in 1934, pooled serums obtained from abortive cases of poliomyelitis were found to have higher neutralizing ability than those from frankly paralytic cases.

The question of the efficacy of all these serums after administration to the patient is not being discussed here, but merely the theoretical value as demonstrated by the *in vitro* neutralization test. Undoubtedly, from this standpoint, many serums are effective, although varying in degree of potency, while from the clinical point of view the the subject is apparently a matter of controversy.[13]

VIII. SUMMARY

Seventeen (65.3 per cent) of twenty-six undiluted serums from normal professional donors neutralized a standard amount of poliomyelitic virus, while nine (34.7 per cent) lacked potency.

Pooled undiluted serum from members of the medical staff, as well as from normal adult outside volunteers, all neutralized the same amount of virus. Ten of them neutralized in a 1-10 dilution, seven out of nine in a 1-40, while none was positive after diluting 1-80. Eighteen pools of convalescent serum were tested, and all but one neutralized when undiluted. Titrations of the latter showed a lower degree of potency than did the normal serums.

Selected lots of serums from staff members over and under thirty-five years of age, respectively, as well as from normal adult outside volunteers of the same age groups, all neutralized the virus in a 1-40 dilution.

Titration of convalescent serums in lots from cases having had poliomyelitis, respectively, in 1934, and 2, 4, 10, 20, and over 20 years previously, showed a positive neutralization in a 1-10 dilution. Several individual serums from recently recovered patients showed less potency than those from convalescents of longer duration, even over forty years. There was very little difference in the average degree of potency between two groups of serums from convalescents, one having received serum treatment during the disease and the other not being treated.

From a comparison of the data presented, it would seem justifiable to use pools of normal adult serums from an urban district in the event of a sudden outbreak of poliomyelitis, even though the confirming neutralization test was unavailable at the time.

Hooper Foundation for Medical Research.

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DISCUSSION

K. F. Meyer, Ph. D. (Medical Center, Third and Parnassus Avenues, San Francisco.)—The paper by Miss B. Howitt does not consider the therapeutic or prophylactic use of antiviral serums in poliomyelitis. Two statements summarize the position taken by competent clinicians who feel that the case for or against the use of serum has not been made. Thus Ledingham (Bulletin, Johns Hopkins Hospital, June, 1935, Vol. 56, p. 346), says:

"Some physicians are prepared to accept the view that convalescent poliomyelitis serum is of value therapeutically in the preparalytic stage and act accordingly, but probably a majority believe that no evidence so far has been forthcoming that such serum exerts any therapeutic effect whatever. In any case accurate controlled statistics in support of the procedure are not yet available. I believe, however, that there is a field for antipoliomyelitis serum as a prophylactic for contacts; though here again it will be difficult to get the necessary statistical controls.

"A recent serious outbreak of poliomyelitis in Denmark, in which extensive prophylactic use has been made of antipoliomyelitis serum from the horse, may possibly afford some evidence for or against its value in such circumstances. This antipoliomyelitis serum prepared in the horse has high neutralizing value—considerably higher than that of human convalescent serum—when tested on monkeys."

Probably the majority will concur in the remark by C. Jensen (Proceedings of the Royal Society of Medicine, June, 1935, Vol. 27, p. 1024): "No real proof has hitherto been given that convalescent serum is without effect."

In view of the unfortunate and distressing accidents which have and will accompany the present methods of active immunization, it may indeed be advisable to reconsider the position taken with respect to the use of the antiviral serums. The observations made and the conclusions drawn by Stokes and associates (*American Journal of Diseases of Children*, 1935, Vol. 50, p. 581), deserve consideration in this connection.

THE RÔLE OF THE URETHRA IN FEMALE UROLOGY*

By William E. Stevens, M.D.
San Francisco

Discussion *by Edward W. Beach, M.D., Sacramento; F. S. Dillingham, M.D., Los Angeles; James Steinberg, M.D., Los Angeles.*

Although several excellent papers on the female urethra have appeared in the literature during the last few years, it will be necessary to emphasize the importance of this organ for a longer period of time before the frequency and significance of its lesions are recognized by the majority of the medical profession. My attention was first called to the importance of this organ about sixteen years ago because of the frequency with which the introduction of an examining cystoscope was followed by marked alleviation of symptoms, although these were often suggestive of upper urinary tract pathology.

In a recent study of 425 female patients with urinary disturbances, the urethra was entirely responsible in 67 and at least partly responsible for the symptoms in 328 cases. Lesions of the generative organs were responsible etiologic factors in 90, and other organs not connected with the urinary or generative tracts in seven. These figures correspond to those resulting from a former study of 234 other cases in which urethral lesions were apparently wholly responsible in 56, and partly responsible in 173 instances. Cases of urethritis in which the gonococcus could be demonstrated were not included, otherwise the numbers would have been larger.

The most common pathological conditions of the urethra were: strictures at the external meatus or in the canal, urethritis usually associated with trigonitis, polyps and polypoid formations, papillomata and caruncles. Three of the latter were associated with strictures. Carcinoma occurred in three, sarcoma in one, urethrovaginal fistula in one, and a calculus in one of these cases. I have seen but three urethrovaginal fistulas and one urethral calculus in several thousand women with urinary tract pathology coming under my observation.

Concomitant pathology was found in other portions of the urinary tract in 92 and in the generative organs, most often in the cervix, in 63 of the present series of cases.

EXAMINATION OF THE FEMALE URETHRA

It is often advisable to use three types of instruments in the examination of the female urethra—a skenoscope, a female urethroscope with the lamp at the distal extremity, and a near-vision cysto-urethroscope using water dilatation. If the latter is not used, those pedunculated papillomata and polyps, which lie against the wall of the urethra, may be overlooked. A properly performed, two-glass test is of value in the female as well as male patients, especially when infection is limited to the urethra. Palpation through the vagina will aid in the detection of tumors, foreign bodies, thickening and induration of the urethra, urethroceles and obstruction from extrinsic causes such as displacement of the uterus, fibroid tumors and other growths.

URETHRITIS

Urethritis was found in 150 of this series of 425 patients. Although apparently second in frequency to strictures, with which it is often associated, many cases of urethritis were probably not detected because of the impracticability of satisfactory urethroscopic examination in the presence of urethral obstruction.

Urethritis usually occurs as a diffuse more or less granular inflammation involving the entire urethra, or a limited area more commonly in the posterior portion of the canal. Infection with the gonococcus is the most common etiological factor, although the colon bacillus and other organisms are frequent offenders. Urethritis, due to infection by the latter, with or without infection of the bladder and kidneys, is more common in the female, regardless of age, than is generally appreciated.

Many of our urethritis cases were associated with infection of the cervix. Infection of the urethra from this source and ascending lymphatic infection of the kidneys from the urethra, are considered quite common by some writers. Renal infection was found however, in but five of the cases of urethritis in which no stricture could be demonstrated in this series of cases.

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* From the division of female urology, department of obstetrics and gynecology, Stanford University Medical School.

Read before the Urology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13–16, 1935.

Beach recently described an interesting condition which he has termed "erotic urethritis." It occurs in women subjected to frequent unrequited genital turgescence, and is characterized by congestion and tenderness in the urethra. Infection is usually absent in this type.

Persistence of urethritis is usually due to infection of the urethral glands. Some authors deny the presence of glands other than the paraurethral glands, sinuses or lacunae, of which Skene's are the best example. They claim that the other structures, which may resemble glands, are simply inclusions of the epithelium, the "cell nests" of Brun, which undergo liquefaction with the formation of unilocular, gland-like structures.

Robin and Cadiat in 1874, and more recently Johnson, Sachs, Renner and Folsom, have demonstrated periurethral glands in the female. It has been conclusively proven that the female urethra contains glands which, although less highly developed, correspond morphologically and in their arrangement to those of the male prostate gland. Prostatic concretions originally described by Morgagni and Virchow were found in several of Renner's cases.

TREATMENT OF URETHRITIS

We have obtained the best results in the treatment of urethritis by rest, bland diet, instillations of argyrol or 1:1000 solution of Boot's acriflavine, alkalinization of the urine and sedatives such as hyoscyamus and belladonna. Chronic cases usually respond to urethroscopic applications of 10 per cent silver nitrate solution and dilatation even in the absence of urethral obstruction. Cauterization of infected glands and granulations is sometimes necessary. Severe irritation is caused in some instances by even mild solutions of silver nitrate. Its use is contraindicated in these patients. The skenoscope is a useful instrument in the examination and treatment of those infected glands and other lesions which are located in the anterior third of the urethra. A urethroscope of the Kelly type, with a lamp at the distal extremity, is used for applications to other portions of the urethra and trigone. The knee-chest position is desirable with this procedure. Water-dilating scopes are preferable when fulgurating granulations, polyps and papillomata.

As a highly acid urine is irritating and sometimes responsible for symptoms even in the absence of demonstrable urinary tract pathology, the majority of our patients received an alkali, together with the hyoscyamus or belladonna. In a number of instances the symptoms disappeared without further treatment.

STRICTURES

Sixteen years ago, impressed by the frequency with which improvement followed a single cystoscopy, I decided to calibrate the urethra of every patient with symptoms suggestive of urinary tract pathology. The results of this routine procedure since that time have confirmed the opinion expressed in a paper read before the California Medical Association in 1919 that, contrary to textbooks, an abnormal narrowing—in other words, a stricture of the female urethra—is a common condition.

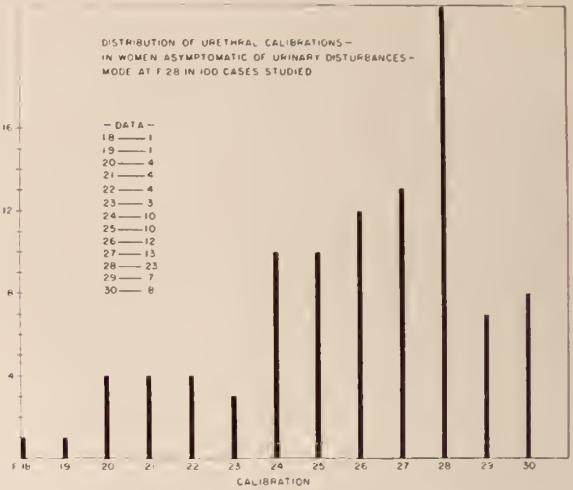

Fig. 1.—Urethral calibration in 100 adult females who had never suffered from symptoms suggestive of urinary tract pathology.

In the recent series of 425 patients with urinary symptoms, a urethral stricture was found in 174 or 41 per cent. In a former series of 633 cases, urethral strictures were found in 190 or 30 per cent, and in still another group of 169 cases, strictures were found in 94 or 55.4 per cent. In the total of 1,227 patients with urinary symptoms, I found strictures in 458 or 37 per cent.

Strictures may either be congenital or acquired. The latter are subdivided into inflammatory and traumatic, gonorrhea or other infections of the urethra being the most common etiological factor in the former, and childbirth or cauterization of urethral glands and growths in the traumatic type. It would seem advisable to calibrate the urethra after difficult confinements and following fulguration or cauterization. I believe that in those cases due to foci of infection not located in the upper urinary tract, the cervix and other female pelvic organs are more often responsible for urethral pathology than the teeth, tonsils and other more distant structures. Spasmodic strictures, caused by involuntary contraction of the urethral musculature, are occasionally found in hypersensitive women. I have seen four cases, all of which were more or less resistant to treatment. So-called symptomatic strictures are not uncommon in the adult female.

REPORT OF CASE

The following case illustrates this type:

A single woman, forty-five years of age, complained of complete retention of urine of three days' duration. She had always suffered from frequency and nocturia. The latter had increased in severity during the past few weeks. She had also had a "pulling" sensation in the right lower abdominal quadrant for one week. During the four days previous to the onset of complete retention, she had voided small amounts of urine with difficulty. About 1,500 cubic centimeters of

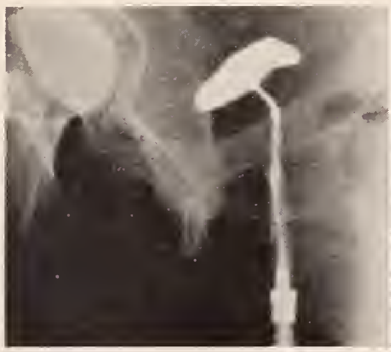

Fig. 2

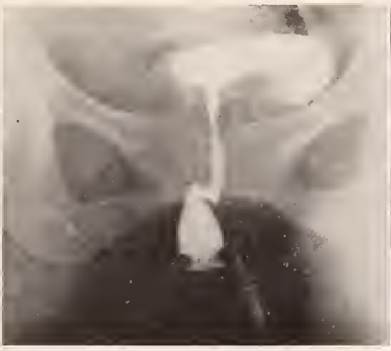

Fig. 3

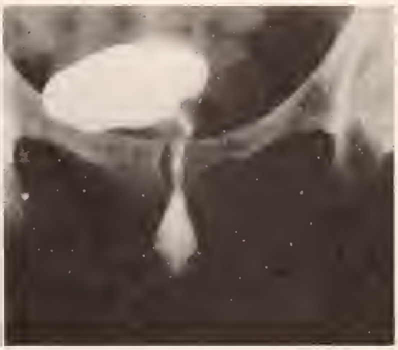

Fig. 4

Fig. 2.—Bend in upper part of normal female urethra. Lateral view.

Fig. 3.—Ventro-dorsal view of urethra, showing the narrowing just posterior to its middle third.

Fig. 4.—Although a normal bend is seen, this patient complained of relative continence of urine. This was partly due to a central nerve lesion.

purulent urine were withdrawn on catheterization. A large pelvic mass, probably a fibroid uterus, was found on vaginal examination. The urethra deviated to the right. A cystoscope was introduced with difficulty because of obstruction caused by the pressure of the mass on the urethra. The bladder wall was markedly injected and hypertrophied. All symptoms disappeared following hysterectomy.

The symptoms of which our last 174 patients with urethral strictures complained were in the order of their occurrence: frequent urination, local or referred pain, nocturia, burning, dysuria, urgency, difficulty in urinating, incontinence, complete retention of urine and dribbling. One hundred and fifty-eight complained of frequency, 145 of pain, 105 of nocturia, 60 of burning, 34 of dysuria, 20 of urgency, 8 of difficulty, 4 of incontinence, 2 of complete retention, and 1 of dribbling. In one of these cases the distended bladder had been mistaken for a pelvic tumor by the attending physician. Spasmodic strictures are responsible for difficulty in urinating and resistance to the passage of instruments.

The pain, of which 145 of these patients complained, was located in the suprapubic region in 34, in the upper lumbar or kidney regions in 32, in one or both lower abdominal quadrants in 29, in the lower lumbar region in 21, in the sacral region in 11, in the urethra in 6, in the groin in 4, in the upper abdominal quadrants in 3, in the thigh in 4 and in the epigastrium in 1. While the symptoms in some of these cases might have been due to concomitant urethral or generative tract pathology, improvement followed dilatation or meatotomy in almost every instance; consequently, I felt justified in the conclusion that strictures were partly, if not entirely, responsible for the patient's discomfort.

Urethral strictures are most frequently located at the external meatus. An increase in fibrous connective tissue or cicatricial contraction is usually found in these cases. Strictures were located at the external meatus only in 149, in the anterior third of the urethra in 13, in one of which a stricture was also found at the external meatus, in the posterior third including the internal meatus in eight, in one of which a stricture was also found at the external meatus and in the middle third in four, of which one was also found at the external meatus. The olive-tip bougie is the most satisfactory instrument for urethral calibration. A local anesthetic is seldom required.

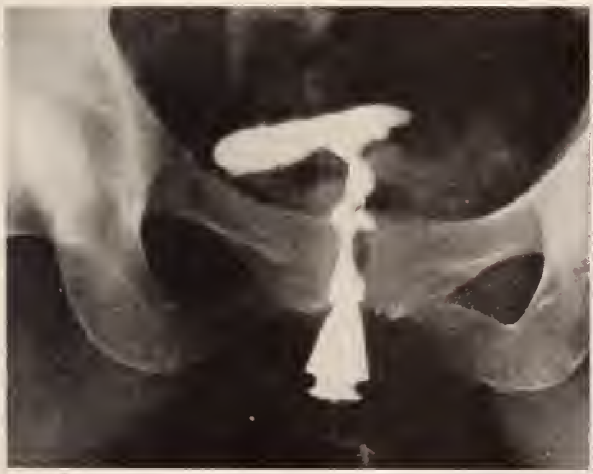

Fig. 5

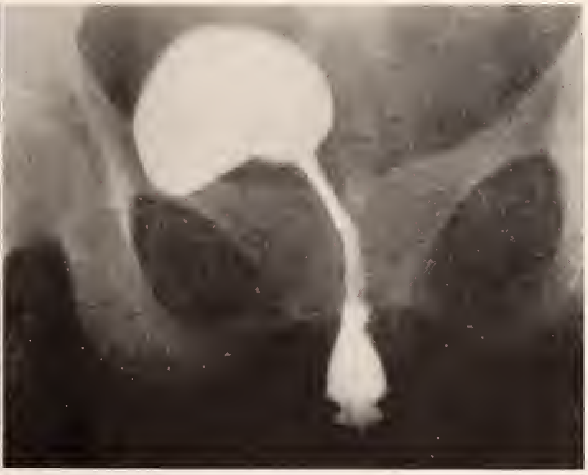

Fig. 6

Fig. 5.—Distortion of the urethra due to a growth involving the posterior third of the urethra, vesical orifice, and trigone.

Fig. 6.—Urethral pockets due to a stricture at the external meatus.

Opinions differ as to the normal caliber of the urethra in the adult female. Van de Warker believed it to be from F. 23 to F. 28, Folsom from F. 30 to F. 32. Wynne states that the normal meatus varies in size from F. 18 to F. 30. Herman, following calibration in fifty-five women without urinary symptoms, concluded that F. 29 is the normal caliber. We calibrated urethras of 118 women who had never suffered from symptoms suggestive of urinary tract pathology. These showed an average size of F. 26. The smallest one was F. 18 and the largest F. 30. Olive-tip bougies, with the French scale of measurement, were used exclusively in this work. I believe that a urethra below F. 26 is very often responsible for symptoms and pathology such as chronic infection in both the urethra and upper urinary tract.

The most common pathological conditions of the urinary organs associated with urethral strictures were urethritis, trigonitis, cystitis and renal infection. Congenital obstructions of the urethra are probably important factors in the cystitis and pyelitis so common in female infants and children. Whereas kidney infection was associated with urethritis in but 5 of 150 cases, it was present in 17 of the 174 cases with urethral stricture. Eighteen of the patients with urethral strictures also had a concomitant cystitis. This usually disappeared rapidly following meatotomy or dilatation of the urethra in the absence of renal infection. One patient was referred to our clinic with a diagnosis of appendicitis. All symptoms disappeared following meatotomy.

Urethral strictures are more common in women who have borne children. One hundred and fifteen of the strictures in this series of 174 cases occurred in multipara, and 59 in nullipara. A stricture was found at the external meatus in 99, or 86 per cent of the multipara, and in 50, or 84 per cent of the nullipara. Strictures were found in the canal in 16, or 13.9 per cent of the multipara, and in 9, or 15.2 per cent of the nullipara. The average size of the stricture was about the same in both multipara and nullipara: F. 21.6 in the former and F. 21.3 in the latter.

Urethral obstruction is due, in a very small number of cases, to polypoid formation, or to a thickening in the posterior urethra with or without contraction of the vesical orifice, the so-called prostatism in the female. These conditions are usually due to a low grade infection of many years' duration. Urethral valves are extremely rare in this sex.

TREATMENT OF STRICTURES

While dilatation of strictures at the external meatus will usually result in the relief of symptoms, meatotomy is the procedure of choice for obstructions at this location. It is preferable to bring the skin and membrane together on both sides of the meatus with fine catgut following incision. This will result in less postoperative bleeding and prompt healing. Further passage of dilators is seldom necessary following this procedure. Strictures in the canal yield readily to gradual dilatation. It is occasionally necessary to fulgurate obstructions at the internal urethral meatus or vesicle orifice. Resection may occasionally be required. Thirty-five per cent of these patients were permanently cured. Sixty per cent showed marked improvement or disappearance of symptoms, but not sufficient time has elapsed to justify the statement that they were cured. Five per cent were unimproved.

URETHROGRAPHY

It has been necessary to change our conception of the contour of the female urethra since Einar Thomsen's roentgenological studies of this organ. This author has demonstrated an angular bend in the posterior urethra at the point where it is suspended in the loop formed by the sphincter trigonalis and Heiss's muscle fibers. Thomsen states that a straightening out of this bend will result in incontinence of urine. I have found exceptions to this rule. The conclusion may be drawn from Thomsen's investigations, however, that an operation to support or tighten the anterior wall of the urethra may be necessary in some cases of incontinence.

Thomsen has also shown the narrowing at or just above the midportion of the urethra corresponding to the point where it passes through the urogenital diaphragm. A slight resistance is sometimes encountered at this location on instrumentation. It should not be mistaken for a stricture.

SUMMARY*

The conclusion is drawn from these statistics that lesions of the urethra, especially urethritis and strictures, play a very important rôle in female urology.

Both para-urethral and peri-urethral glands are found in the female urethra. Persistence of urethritis is usually due to infection of these structures, together with a frequently associated urethral obstruction.

Strictures are common in women. They are more numerous at the external meatus, and are responsible for a large variety of symptoms including pain in various locations. Multiple strictures were found in three of the series of 174 cases of urethral stricture.

The average size of the normal urethra in the adult female is F. 26. The average stricture is about F. 21.

Our urethrograms show the angular bend as well as the narrowing in normal female urethras recently demonstrated by Einar Thomsen.

870 Market Street.

DISCUSSION

Edward W. Beach, M. D. (Medico-Dental Building, Sacramento).—We, as urologists, and the profession at large, are greatly beholden to Doctor Stevens for his work on the female urethra. Some sixteen years ago Doctor Stevens observed certain phenomena relative to this structure and, like the great mathematician Maxwell when he first beheld a locomotive, he set about to comprehend the "go" of it. Since that time, Doctor Stevens has painstakingly correlated his observations on the female urethra from a vast array of clinical material; he has endeavored to study the

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* The author wishes to express his appreciation to Doctor S. P. Smith of Stanford University Hospital, for his valuable assistance in the calibration and roentgenography of these patients.

"go" of it in its various phases, and by a series of splendid articles over a period of years he has directed the profession's attention to possibilities in this abbreviated aqueduct. Through Doctor Stevens' pioneer efforts, which later were amplified by other competent observers, the urologist of today has become urethra "conscious," and the general profession slowly but surely is becoming cognitive of latent possibilities existent in this little canal. These initial studies, plus the modern diagnostic instruments, have provided the urologist with Ephesiae literae, as it were, in his investigation of the female urethra.

In this article Doctor Stevens has rightly dwelled upon the frequency with which urethritis, other than the specific type, occurs in the female. He has pointed out that this entity is often associated with diminution in caliber of the canal or urethral stricture. He has stressed the fact that concomitant infection of the cervix and genital adnexia is not rare in these cases. It would appear, therefore, that a cure depends upon a most elaborate and detailed investigation, together with eradication of any contributing factors or contingent etiology. To me, the importance of trauma, particularly coital trauma, in these urethritis cases cannot be lightly passed over. One need only separate the labia to behold the urinary meatus bathed in a cesspool of mucus, bacteria and cellular débris, and flanked on either side by its gaping paraurethral endowment, to realize that only slight trauma is needed here to render vulnerable such highly potential soil. I believe, likewise, that the abrasive effect of toilet paper employed in an effort to dry the vulva after urination, together with the act of sweeping from the anus upward in this process, as practiced by many women, must be thought of in certain of these urethritis cases.

With regard to acquired strictures, we must consider principally infection, destructive lesions and the trauma attending childbirth. Infection is particularly operative about the meatus because of its position and its glandular endowment, and it is, hence, in this locality that a diminution in caliber is found most frequently. However, since the female urethra is homologous to the male supramontane urethra, and contains glands whose arrangement corresponds genetically and morphologically to this portion in the male, infection with stricture possibilities cannot be ignored elsewhere.

Destructive lesions in the form of abscesses in and about the urethra are often provocative of strictures. Overenthusiastic fulguration or radical operative technique for caruncle at times is responsible for stricture formation.

Trauma of the urethra is frequent at childbirth. The urethra is caught between the unyielding fetal head behind and the pubis above. In this way considerable pressure is brought to bear upon the urethral canal, and great damage may result. It is for this reason that strictures are more often found in multiparous women. Doctor Stevens rightly insists on examination and calibration of the urethra after difficult or instrumental deliveries.

The importance of urethrograms in the study of the female urethra is just beginning to be appreciated by most of us. So far as I know, Crabtree of Boston is the only man employing this method more or less routinely at the present time. Thomsen's preliminary work has opened a great vista for the advancement of our knowledge from the standpoint of anatomy, physiology as well as pathology, relative to the urethra. The knowledge thus gained, as Doctor Stevens has stated, will undoubtedly explain certain cases of incontinence of lesser degree which now are a great trial to the urologist, both as to exact etiologic comprehension as well as cure.

I hope Doctor Stevens will favor us in the near future with a similar article, setting forth in more detail his studies in urethrography.

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F. S. Dillingham, M. D. (610 South Broadway, Los Angeles).—This is an important subject, and Doctor Stevens is right when he again brings it to the attention of urologists and the general medical profession. Owing to the wealth of his material, his statistics are valuable; and, as usual, Doctor Stevens has covered the subject so well that we can only emphasize some points.

Many times a urethrocele is diagnosed as a caruncle, and a cure attempted with no thought of pelvic and perineal repair.

Symptoms of cystitis are often found to be caused by a granular urethritis, and respond to dilatation and application of silver nitrate through the open urethroscope. In persistent or recurring urethritis the glands of the urethra may be gently injected directly by a gold needle through the urethroscope, or destroyed by fulguration. In the majority, I find Rivanol solution 1:5000 to 1:1000 less irritating, less staining, and more efficient than either acriflavine or the later neutral acriflavine. The use of subcutaneous Edwenil or intravenous 1:1000 hydrochloric acid has seemed to aid in the recovery of some of the stubborn cases of urethritis, and lessen the reaction to dilatation or silver nitrate as mentioned by Doctor Stevens.

The majority of cases that come to me in private practice are not due to the gonococcus, but, as a rule, are caused by the same bacteria that are found in the nonspecific male urethra. It is surprising how some women with badly torn perinei escape infection when their relaxed urethral meatus is bathed in pus from the vagina or rectum; while others with a normal, small, or strictured meatus will be promptly infected. The position of the meatus has seemed to me to be of etiologic importance, as some are placed at almost the very entrance of the vagina and may account for the greater number of infections in married women.

Some cases of stricture are neglected, as in the male, and require filliforms and the smallest bougies at the beginning of treatment. One patient with contracture of the bladder neck and a residual of 330 cubic centimeters could not void till hot towels were applied. This condition was entirely relieved by the McCarthy resectoscope resecting the obstructing fibrous tissue, and there has been no residual urine since.

The loop is more practical in removing papillae, polypi and lesions at the bladder neck, as so ably described by Folsom, than the older methods.

I have failed to cure incontinence by suturing the wall of the urethra to the periostium of the pubes; possibly I was afraid of causing too great an angle and so did not make one great enough. If properly done, it is probably simpler than using the gracilis muscle.

One large diverticulum near the bladder neck was discovered when the physician stripped the urethra and a gush of argyrol flowed out after being retained for four days since her previous visit. This was verified by the use of a cystourethroscope.

I might add one more authentic case of stone in a diverticulum of a female urethra, which I found in 1932, but was not reported. Shivers and Cooney, in 1934, reported that only two such cases have been found to date.

I again plead for the brief reporting or recording of the single or few cases of interest so that they may be added to the statistics of the larger clinics. Papers of the type submitted by the author should be read and discussed at general meetings, as well as the closely allied sections.

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James Steinberg, M. D. (1052 West Sixth Street, Los Angeles).—Lower urinary-tract obstruction in the male has been so overemphasized, and has occupied the center of the stage for so many years, that it has displaced and distracted attention from the existence of obstructive types of pathology in the female.

The importance of the rôle of the urethra in female urology as an obstructive factor deserves all the credit that Doctor Stevens has given it, and any discussion on this subject should serve the purpose of still further stimulating the attention of the medical profession to the frequency of this type of simple obstructive pathology that causes so much grief to so large a percentage of female patients.

In addition to the true type of urethral stricture, as has been described, with its resultant symptoms of obstruction, the bladder-neck type of obstruction and narrowing of the proximal end of the urethra in the female, with acute or chronic congestion of the bladder neck and resultant trigonitis, should not be overlooked as one of the commonest etiologic factors of female vesical irritation.

A characteristic trait among women is the habit of holding the urine for long periods of time and not attending to the call of nature as soon as the desire to void is experienced. This results in acute bladder-neck congestion, with the result that there is a temporary atony of the bladder wall causing a residual bladder urine at the next voiding. If this habit is constantly indulged in, it will eventually result in chronic inflammation and congestion of the bladder neck with trigonitis which, in turn, will produce contracture and narrowing of the bladder neck, producing thereby the symptoms of obstruction as have been described.

Fortunately this condition can be remedied in the female much easier than in the male because of the ease of accessibility, and also because there is no complicating factor to consider such as the prostate in the male.

The crusade of arousing the medical profession to the importance of this common type of obstructive ailment, and the comparatively simple procedure in bringing about the relief of such a large percentage of women sufferers, is certainly well worth the time and effort put into this subject by the author.

COMPRESSION FRACTURES OF THE SPINE*

By Wayland A. Morrison, M.D.

and

Richard J. Flamson, M.D.
Los Angeles

Discussion *by Francis M. McKeever, M.D., Los Angeles; Howard W. Fleming, M.D., San Francisco; Arthur L. Fisher, M.D., San Francisco.*

During the past ten years we have treated 2,522 cases of fractures of various types at the Santa Fe Hospital in Los Angeles. Of this number, 4 per cent were compression fractures of the spine. The percentage of fractures of this type seems to be on the increase, due probably to the increased number of automobile accidents since the repeal of the Eighteenth Amendment. This type of injury to the spine is the most common, and not infrequently is missed by the medical attendant. Untreated cases which may show no great deformity often have prolonged pain and are responsible for many total disability ratings. While adequate treatment will greatly reduce the pain and the ultimate total disability, there is still much to be accomplished in the handling of this type of case.

In our series the average age was thirty-nine years, the youngest was ten years, the oldest was seventy-eight years, and four were females.

There were four deaths; three patients refused treatment; 9 per cent had cord injuries, and 33 per cent had other fractures.

The diagnosis of compression fracture of the spine is best made by the x-ray. Good lateral views, as well as anteroposterior views, are essential.

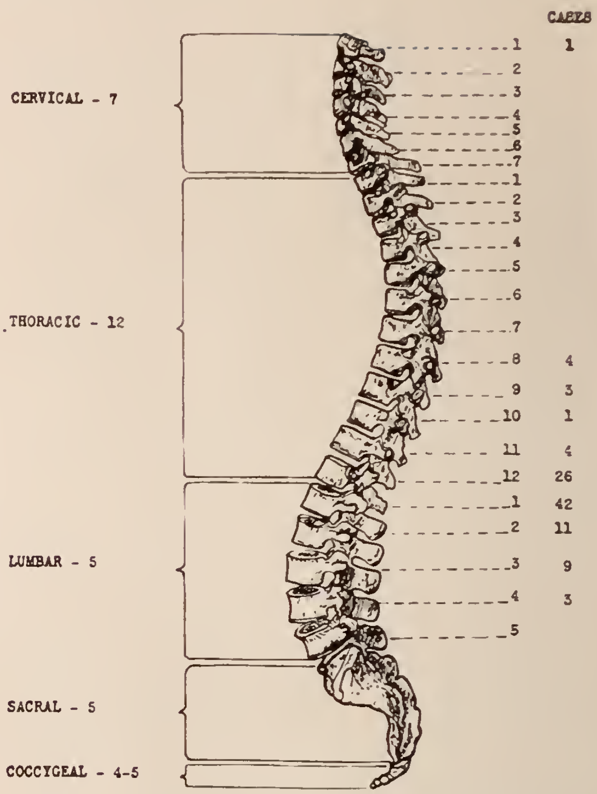

Fig. 1.—Distribution of fractures as to vertebra involved.

ANATOMICAL STRUCTURE OF THE SPINE

As we know, the spine is the flexible, supporting rod of the body. It is made up of articulated discs and held together by means of strong ligaments and articulated facets. The spongy vertebral bodies increase in size from above downward to accommodate the varying weight and strain to which they are subjected. The flexibility and elasticity of the spine are due to the intervertebral discs and the double anteroposterior curves.

SPINE INJURIES

Keeping in mind the anatomical structure of the spine, it is easy to see how any force causing flexion of the structure beyond its normal elasticity will injure the spine at its weakest point, which is the region of spongy vertebrae. The same is true when undue weight is placed upon the bodies, as in a fall, or, as happened in one case in our series, while lifting a heavy load. Forced hyperextension will also produce fracture by tearing the prevertebral ligament and pulling with it a fragment of the body of the vertebra. The most common cause is the so-called "jack-knifing," or forced flexion. In our series, falls were responsible for 69 per cent of the injuries; automobile and train wrecks, 16 per cent; direct trauma, 9 per cent; forceful sitting, 5 per cent; and lifting, 1 per cent.

The body of the vertebra may be actually comminuted and broken into several pieces. Occasionally we see a cup-shaped depression. The most usual kind, however, is the narrowing of the anterior portion, causing a wedge-shaped deformity with resultant posterior kyphosis. The crushing

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* Read before the General Surgery Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.
Illustrated by twenty-three lantern slides.

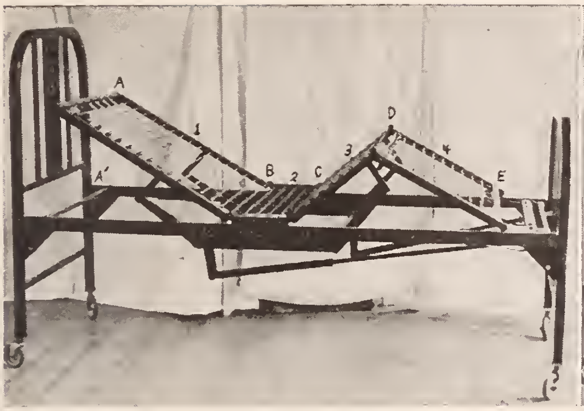

Fig. 2.—Simmons hospital bed.

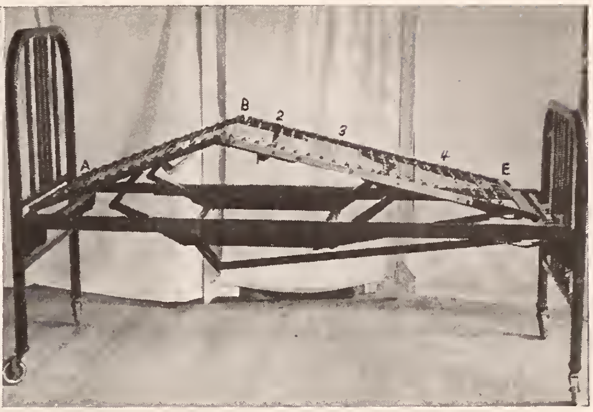

Fig. 3.—Converted Simmons hospital bed.

Conversion of Simmons hospital bed to hyperextension bed. (1) Fasten *A* of Section 1 to bed frame at *A′* permitting springs to swing at this point. (2) Release Section 2 of springs from bed frame by removing rivets or bolts. (3) Make Sections 2, 3 and 4 rigid by bolting three-fourths inch channel iron on each side of frame from *C* to *D*. (4) By turning both cranks simultaneously the spring can be elevated at *B*. Care should be taken to advance both cranks evenly to assure equal bearing on each elevating arm.

may be asymmetrical, and more than one vertebra may be involved. When the neural canal is narrowed or displaced, cord lesions usually develop. It is well to bear in mind that very slight injuries may often produce severe lesions.

SYMPTOMS

Pain is usually a constant symptom, and is frequently referred below the point of injury on account of nerve-root involvement. A few individuals, even with severe fractures, may complain of very little pain. In rare cases a patient will have none at all. Tenderness and muscle spasm are usually present in the region of the fracture. In the lower dorsal and lumbar region the lesion may cause a certain amount of ileus and distention. The abdominal picture may be one to suggest the acute abdomen. Deformity of the spinous processes, or a kyphosis, always suggests a compression fracture, and this condition should be looked for when a compression fracture is suspected. Paralysis of varying degrees may be present, depending upon the severity of the cord lesion.

TREATMENT

The treatment of compression fractures varies greatly in different clinics. At the present time almost everyone is convinced that some form of hyperextension is essential in order to reduce the fracture. This has been accomplished by various mechanical means. It was the fashion, and still is in some clinics, to bounce the patient, while under anesthesia, on a blanket or sheet, thus forcibly hyperextending the spine and reducing the fracture. We used this method for some time, but in the past year or two have given it up owing to some serious after-effects, namely, cord damage and distressing abdominal distention. After manipulation the patient was placed in a full-body cast, maintaining the maximum hyperextension. This cast was worn for a period of eight to twelve weeks.

Recently we have used a specially designed bed for the treatment of fractures of this type. Any degree of hyperextension can be slowly and firmly produced. This method has the great advantage of being almost painless, and it is no longer necessary to resort to the use of a plaster cast. The degree of hyperextension is governed by the amount of compression, as visualized in the lateral x-ray film. We usually take four or five days to produce the maximum degree of bending. The bed can be made in a few hours by anyone who is experienced in the use of tools. The ordinary Simmons hospital bed is employed, with eight- or twelve-inch cross-boards under a three-inch hair mattress.

Contraindications to hyperextension are:

1. Torn anterior vertebral ligaments.
2. Fractures of the laminae.
3. Fractures associated with cord lesions where open operation is indicated.

Fractures without deformity are placed in a plaster jacket in a mild hyperextended position. We use a table similar to the Goldthwait Frame (See Fig. 4), except that our table permits varying degrees of hyperextension. Lately, however, we are discarding the jacket for bed rest on a hard bed in a hyperextended position. This position is maintained for a period of three months. While this seems a long time, experience has taught us that the prolonged bed rest is compensated for in the freedom from pain and a quicker return to work. Before becoming ambulatory,

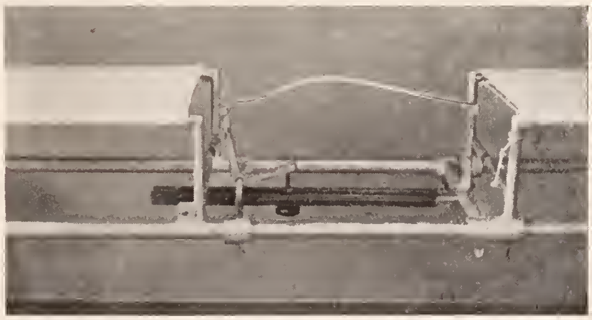

Fig. 4.—Goldthwait frame (as modified by authors).

each case is fitted with a long Taylor back-brace. This is worn for an additional period of three months.

Temporary total disability usually continues for from eight months to a year. The period depends upon the amount and severity of the man's work. Compensation and liability cases are, as a rule, disabled longer than those seen in private practice. The reason for this is obvious. Older people with hypertrophic changes complain of pain longer than younger individuals. Most cases have some permanent disability, as evidenced by pain and limited motion.

IN CONCLUSION

We have reviewed one hundred consecutive cases of compression fracture of the spine. All these cases were treated by some form of hyperextension. Adequate reduction has only been obtained in the past few years by sufficient hyperextension. The treatment on a hard, hyperextended bed of special arrangement gives the desired result and is certainly more comfortable. It produces less muscular atrophy, as a certain amount of motion and directed exercise is allowed, and the ultimate period of disability is thus shortened.

We have made a few slides showing some of the more important points in the construction of the bed and the treatment of this type of injury.

1037 Pacific Mutual Building.

DISCUSSION

Francis M. McKeever, M. D. (412 Medical Office Building, Los Angeles).—The treatment of compression fractures of the vertebral bodies by a "restoration of their normal anatomical contour" represents a marked advance in fracture therapy. A decade ago such fractures were permitted to heal in a position of deformity, or a large section of the spine was ankylosed by various types of bone-grafting operations, with the result that a "broken back" invariably resulted in a large disability.

Hyperextension of the spine, by whatever method obtained and maintained, does tend to restore the compressed vertebral body to its normal contour. The ingenuity of Doctors Morrison and Flamson in converting a simple standard hospital bed into an effective appliance for obtaining hyperextension of the spine by use of readily available materials is a distinct contribution to the fracture surgeons' armamentarium, and makes it possible for the proper treatment of acute compression fractures to be started even in less populous areas, for a hospital bed and planks are always available.

Whether three months' recumbency in hyperextension in all compression fractures of the spine is necessary, or even advantageous, I believe is open to some question. Ninety days of recumbency, despite daily physical therapy, results in marked atrophy of the musculature, not only of the trunk but of the extremities. A compressed fracture in the mid-dorsal spine in the concavity of the dorsal kyphos probably cannot be prevented from collapsing by any type of fixation in the early post-traumatic period when a patient is allowed to be ambulatory. However, a decompressed vertebral body in the midlumbar region, when it is on the convexity of the lumbar lordosis, will not collapse if the hyperextension of the entire spine is maintained by a well-fitting plaster jacket molded to the iliac crests and extending to the suprasternal notch. In such a jacket it is possible to permit ambulation in from ten to fourteen days after reduction, with no loss of reduction. This not only shortens the hospital period, but also maintains a better musculature and a better morale, materially shortening, as I believe, the period of disability.

Howard W. Fleming, M. D. (384 Post Street, San Francisco).—My discussion will be limited to intraspinal complications of compressed fractures of the spine. Many comparable series of cases suggest a larger percentage of cord and root complications. Radicular pain, areas of hyper- or hypesthesia, weakness, or impaired sphincter control, suggest the necessity of careful neurologic investigation. The possibility of late neurologic complication should be borne in mind. Repeated examinations often suggest treatment, especially when too rapid hyperextension is causing increasing pressure on the intraspinal contents. Extrusion or dislocation of part of the body or cartilage may occur some time after the original injury.

Laminectomy and decompression of the cord are seldom helpful when the paraplegia is immediate and complete. Usually the cord is traumatized so seriously that recovery of function is out of the question. The complete obstruction of the spinal canal is estimated by spinal puncture, and a positive Quackenstedt test suggests the necessity of decompression. It is impossible to distinguish between a complete anatomical and a complete physiologic lesion of the cord, and no doubt many cases are operated on unnecessarily.

Partial lesions of the cord, with evidence of a complete block, are amenable to treatment. Many of them recover without the aid of surgery. However, if close observation reveals increasing signs or symptoms of cord involvement, operation should be resorted to as soon as the patient's condition will permit. This viewpoint is probably too conservative, and many surgeons feel that a complete block is sufficient indication for decompression. Certainly, continued pressure interferes with proper circulation of the cord and maximum recovery.

The late neurologic complications of fracture of the spine are most amenable to surgery. Careful visualization of the canal with lipiodol will occasionally reveal partial blocks.

Lateral views taken with the patient in a prone position will often demonstrate deformity of the anterior part of the canal, due to dislocation of the disc or body of the vertebrae. Recognition of injuries in the lumbar region is especially important, as the structures of the caude equina afford an excellent opportunity for marked improvement, if not cure, as the result of treatment.

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Arthur L. Fisher, M. D. (2000 Van Ness Avenue, San Francisco).—Since the passage of the industrial accident law in California the recognition of compression fractures of the spine has become a matter of daily occurrence. This was not true before the passage of this law, nor during the first years of its operation. In the file of records that I have (all cases seen while acting as medical referee for the Industrial Accident Commission), I have numerous ones recording that the injured man was treated for months, sometimes for years, for pain in his back, due to a compression fracture of the spine, in which diagnosis was not made simply because x-rays were not taken.

This, I repeat, was a common finding up to a comparatively few years ago. Of late years it is, fortunately, a rare one. The doctors handling industrial cases have learned to take x-rays that show the condition. It is no longer a matter of diagnosis, but a matter of the best form of treatment.

The treatment of these fractures has varied from the beginning, from merely making a diagnosis and letting it go at that, through the stages of simple rest in bed, fixation, or so-called fixation in a plaster jacket in slight superextension, rest on some sort of a frame in superextension, plaster jackets and rest in extreme superextension, braces (either the Brackett or Taylor types), and operative fixation of the Hibbs or Albee type, or a combination of the two.

Gradually the nonoperative methods have all come to utilize the principle of superextension—the individual method of superextension varying with the personal preference of the surgeon.

It is unquestionably true that a certain proportion, and perhaps a very large proportion, of patients suffering from these fractures get well if treated by superextension of the spine, and if the superextension is maintained long enough to give the bones a chance to become solid.

Superextension, I think, does two things. It tends to correct compression deformity and, if carried too far, may even overcorrect the deformity, and it throws the weight back on the lateral articulations, splinting the spine while healing is taking place. I think, therefore, that the method applied by the authors is to be greatly commended, in that they keep their patients in superextension, and also keep them recumbent for a period of three months, which is none too long, and afterward keep the spine relatively at rest by means of a Taylor spinal brace.

I am convinced that where superextension is the method of treatment it is incorrect to allow the patients to be up and about in plaster jackets or any other contrivances that may be used; because no contrivance can maintain the position of the spine so that the weight falls back on the lateral articulations, and does not jar the healing fragments.

In general, I would say that I agree with the treatment outlined in the paper. However, there is a certain group of cases in which none of the superextension methods seems to give relief. In this group the patients complain of pain and are definitely incapacitated, most of them totally incapacitated for long periods of time. The proper procedure in these cases is, I believe, a fixation operation that extends well above and well below the injured vertebra.

If we could tell beforehand which patients are going to have pain following the superextension treatment, there would be a great saving of time and discomfort if the operation were done as a primary procedure.

The authors point out torn anterior vertebral ligaments as one of the instances in which there is a contraindication to superextension. I think another contraindication to retention of the superextension method is in those cases in which the normal vertebral contours cannot be restored by a fair trial of superextension. There are probably others, but as yet I have not been able to formulate the indications for early fusion.

I think that if it be possible to make an early diagnosis of cases in which the superextension method will not give relief of symptoms, fusion should be done as early as possible before the patient learns the habit of pain. In private practice, in cases in which fusion has been done early, the patients are symptomless after a period of six to eight weeks, and are back at their occupations, no matter what those occupations may be, in a period of six months, and they do not have pain later in life.

I have seen quite a number of patients treated by superextension who have remained symptomless for a number of months, or even up to one or two years, and then pain has supervened. X-rays of such patients show that wedging of the vertebra has recurred with its consequent strain on the lateral articulations, and they have pain referred from these articulations down lower in the back.

To summarize, I would say that superextension treatment, as outlined in this paper, is the treatment to employ, and in a large proportion of patients it will be ample and efficient. In a certain number of others, for various reasons, it will fail, and in those cases resort must be had to a fusion operation.

INTESTINAL OBSTRUCTION: A ROENTGEN AND STATISTICAL STUDY*

By John F. Chapman, M.D.
Pasadena

Discussion *by R. R. Newell, M.D., San Francisco; L. H. Garland, M.D., San Francisco; John H. Breyer, M.D., Pasadena.*

THE study of intestinal obstruction, as here reported, was commenced about eight years ago at the Pasadena Hospital. At that time several cases suspected of having intestinal obstruction were referred in rapid succession. Correct diagnoses were made, and the attending physicians gradually became convinced of the reliability of roentgen findings in such cases. As time went on, more and more patients were sent in whose symptoms were not so suggestive, but it was desired to rule out obstruction. It then became necessary to make correct negative diagnoses as well as positive ones, and I began to keep records to determine the percentage of error in both types of cases.

Table 1.—*Large Intestine Cases*

Operated cases	26
Not operated cases	12
Total	38
Operated cases correctly diagnosed	25
Operated cases not correctly diagnosed	1
Not operated cases correctly diagnosed	7
Not operated cases incorrectly diagnosed	5
Negative diagnoses correct	3
Negative diagnoses incorrect	0

METHOD OF PROCEDURE

The procedure is to take plain roentgenograms of the abdomen with the patient in the prone position. No patient suspected of having an intestinal obstruction is given barium by mouth. Barium enemas are given in cases where there is still doubt as to the location of the obstruction, or where the history and physical findings are suggestive of a large intestine obstruction. This procedure causes little delay, but sometimes it is a real ordeal for the patients, for as a rule they are very sick individuals. It is done, therefore, with as little disturbance of the patient as possible.

LARGE INTESTINE GROUP

The cases of obstruction in the large intestine have been included in the statistical study to show their relative frequency, and the location in the large intestine of the obstruction, as well as to test the accuracy of diagnosis. Tables 1 and 2 show these results graphically. It will be noted that of the operated cases, 96 per cent were correctly diagnosed; of the non-operated cases, only about 58 per cent were correctly diagnosed, while all of the negative diagnoses were correct.

SMALL INTESTINE GROUP

The tabulation of small intestine cases shows that approximately 80 per cent of correct diagnoses have been made, whether the case was operated or not operated, and whether the diagnosis was a positive or a negative one. In the operated cases the correctness of the diagnosis was based upon the surgeon's operative report. In the not operated cases the correctness of the report was

Table 2.—*Location of Obstruction, Large Intestine Cases*

Sigmoid flecture	15
Descending colon	5
Transverse colon	4
Splenic flexure	1
Ascending colon	1

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* From the Pasadena Hospital, Pasadena.

Read before the Radiology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

Table 3.—*Small Intestine Cases*

Operated cases	126
Not operated cases	36
Total	162
Correct diagnosis, operated cases	102, or 81 per cent
Incorrect diagnosis, operated cases	24, or 19 per cent
Correct diagnosis, not operated cases	31, or 86 per cent
Incorrect diagnosis, not operated cases	5, or 14 per cent
Negative diagnosis correct	46, or 79 per cent
Negative diagnosis incorrect	12, or 21 per cent

based upon the subsequent course in each individual case, or upon the autopsy report, if there was one. If the patient went home much improved within a few days, and a negative report was made by me, this was considered correct, even though in some cases a clinical diagnosis of obstruction was written on the record.

Negative diagnoses were made on both operated and not operated cases. The correctness of the diagnosis was judged in the same manner as the positive diagnoses, and they seem to me to be fully as important as the positive diagnoses.

The location of the obstruction in the small intestine was not noted in the record in many of the cases. Undoubtedly this often was simply an omission of the surgeon, but frequently it would appear on the record that the exact location of the obstruction was not discovered, due to massive adhesions, dilatation of intestinal loops, and other factors making identification of location of the obstruction difficult and, indeed, unimportant, so long as the obstruction could be relieved. In the cases where the location of the obstruction was recorded, the findings are given in Table 4.

Table 4.—*Location of the Obstruction*

Terminal ileum	56, or 87 per cent
Duodenum	4
Jejunum	4

FINDINGS AT OPERATION

A tabulation of the conditions found at operation shows graphically the commonest, and also some of the rarer causes of obstruction.

Table 5.—*Conditions resulting in Obstruction, Small Intestine*

Adhesions of all sorts	74, or 59 per cent
Acute appendicitis, with abscess	8
Volvulus, terminal ileum	5
Carcinoma, or carcinomatosis	4
Gall-stones along the intestine	3
Meckel's diverticulum	2
Intussusception, terminal ileum	1
Femoral hernia	1
Pelvic abscess	1
Ovarian cyst, with twisted pedicle	1
Chronic productive inflammation of ileum	1
Polyp, terminal ileum, intussusception	1
Tuberculous peritonitis	1
Hernia of whole small intestine into lesser peritoneal sac	1
Perinephric abscess	1

Table 6.—*Patients Who Had Previous Abdominal Operations*

Patients previously operated upon	93
Appendectomy	47, 8 within 4 weeks
Hysterectomy	13
Cholecystectomy	11
Hernia	6
Intestinal obstruction	4
Carcinoma	5
Salpingectomy	4
Ovarian tumor	2
Uterine suspension	2
Not over one each of other abdominal conditions.	

It will be noted from the above that adhesions of one sort or another play the most frequent part in producing intestinal obstruction, and, as might be expected, appendicitis comes next. The most surprising finding to me was that three out of one hundred and twenty-six operated cases of intestinal obstruction were due to gall-stones found along the course of the small intestine, one in the duodenum, one in the jejunum, and one just proximal to the ileocecal valve. They were all large stones, and were liberated from the gallbladder into the small intestine by ulceration. Two cases were of unusual interest. One was recorded as chronic productive inflammation of the ileum. A segment of the ileum eight inches long, and another twelve inches long, and not far above the ileocecal valve, were almost completely occluded by overgrowth of connective tissue in the wall of the gut. The etiology was not determined. Grossly the gut felt like tumor, but no evidence of malignancy was found. The other was reported as a polyp of the terminal ileum, causing intussusception. The polyp had passed through the ileocecal valve, dragging with it a segment of the terminal ileum. Pathological examination of the polyp showed it to be a lipoma.

PREVIOUS ABDOMINAL OPERATIONS

A very important question in all cases of intestinal obstruction, as will be seen from a glance at Table 6, is whether or not the patient has had a previous abdominal operation.

DURATION OF ILLNESS PRIOR TO OPERATION

I found it exceedingly difficult to obtain data on the length of time the patients had presumably had their obstruction before they reached the

Table 7.—*Duration of Illness, Operated Cases, Small Intestine*

		Died	Recovered
Less than twelve hours	3	1	2
Twenty-four hours	27	4	23
Forty-eight hours	18	5	13
Three days	14	4	10
Four days	14	6	8
Five days	1	1	0
Six days	5	2	3
One week or more	17	7	10

hospital. Wherever possible I obtained this information by directly questioning the patient, for there were very few case records containing this important detail. I am showing a tabulation of the combined records of the attending physicians and myself; for though they are necessarily inaccurate, and decidedly influenced by the personal equation, they are, nevertheless, instructive:

A glance at the table shows that time is a most important factor. The table is peculiar in that there are more cases of a week duration or more than for several days less. A study of the case histories makes it clear that this group includes, or is mostly made up of, cases of partial obstruction, or cases of a more chronic nature because of etiologic factors.

COMMENT

Conditions Other Than Obstruction Which Produce a Similar Roentgen Picture.—Such conditions were not well shown in this series, because there were not many of them. Any condition which will produce a paralytic ileus will give a similar roentgen picture. Peritonitis will produce it, and there were five such cases in the series. Tubo-ovarian abscess with plastic exudate, fibroid with twisted pedicle, appendicitis, cholecystitis, mesenteric thrombosis, thrombosis of the vena cava, and pneumonia, were all found in this series, causing a similar roentgen picture. These cases were so few, however, that I began to watch the gastro-intestinal studies, and especially the studies of the urinary tract, to see if I could find shadows of dilated gas-filled segments of small intestine. Seldom could evidence be found in any of these of enough gas in the small intestine to dilate it.

The use of morphine or similar drugs was always watched for, for it puts the bowel at rest, and the gas formed in it does not pass on and tends to accumulate. When I knew that such drugs had been used, I was always more conservative in my opinion. Such cases were not listed, so that I now have no accurate record of them; but I believe the knowledge that morphin had been used was one of the chief factors in the making of some of the correct negative diagnoses.

Why do some cases early produce a large accumulation of gas and others a small amount, even after the history indicates that obstruction must have been present for several days? The answer which one immediately thinks of is that cases where obstruction is complete, or where there is actual strangulation, produce gas in quantity early. This is often, but not always, true, and it is not, I believe, the full answer. An understanding of the mechanism of gas production and absorption in the gastro-intestinal tract, both in health and disease, will be necessary before this is fully understood. This may be of academic rather than of practical interest, for when confronted with an individual problem the procedure should be prompt and bold diagnosis, followed by immediate action. Nevertheless, a rather superficial search of the literature on intestinal flatulence showed that some careful consideration of this question has been given by well-trained observers. For those interested, I would refer to an excellent article by John L. Kantor, entitled "A Study of Intestinal Flatulence," which appeared in the *Annals of Internal Medicine,* Vol. 3, No. 5, November, 1929, and to the bibliography there appended. Briefly, it there appears that the absorbability of the gases found in the intestine varies tremendously. Carbon dioxid, which is derived from food, is very readily diffused through the intestinal wall in either direction. Nitrogen, on the other hand, is as inert as usual, and when it passes into the tract is not absorbed and has to make the transit of the tract. The other gases, such as hydrogen sulphid, oxygen, hydrogen, and methane, have an intermediate absorbability. In the flatus it is the unabsorbable gases which predominate, as analyses of flatus has proved. The normal physiology of gas production and absorption must be profoundly upset in the presence of intestinal obstruction. I have discovered no record of the gases found behind obstruction in the small intestine. The liquid contents behind obstructions must also be altered, and are of equal or greater importance.

DIAGNOSIS

What are the minimum findings which will warrant a diagnosis of intestinal obstruction? By the procedure I have so far used, I am unable to distinguish intestinal obstruction from peritonitis, or paralytic ileus, or from some other abdominal conditions which apparently react on the peritoneum or upon the gut itself. It follows that I do not place entire faith in the roentgen picture. But a consideration of the history of the illness, and consultation with the attending physician should make it possible to avoid errors. Repeatedly I have found it safe to diagnose obstruction after such a consideration of the data when not more than five or six inches of dilated gas-filled small intestine could be recognized on the roentgen film. On the other hand, the series has repeatedly proved that it is unsafe to diagnose obstruction from the film alone, even if most of the abdominal area is covered with shadows of dilated gas-filled small intestine. I have taken the stand that in the presence of such a serious condition, and where time is of such prime importance, one is justified in being somewhat radical rather than conservative. My experience has been that attending physicians need the encouragement of a bold diagnosis, rather than the negative assistance of a timid one. I have been blamed but once for so doing. One must be willing to take the consequences.

SUMMARY

An intensive study of two hundred cases of suspected intestinal obstruction has been made. A procedure has been used which causes but little delay and as little disturbance of the patient as possible. It has been shown that, by following this procedure boldly, approximately 80 per cent of correct diagnoses have been made on cases which have come to operation. Negative diagnoses, which are fully as important, have been correct in 79 per cent of cases. In cases not operated upon, 86 per cent of correct diagnoses have been made. The location of the obstructions in both large and small intestines has been shown by tables. The various conditions resulting in obstruction, and the conditions simulating obstruction, have been shown by tables. The importance of the history of a previous operation has been pointed out. An attempt has been made to demonstrate the importance of time. It is believed that if attending physicians and surgeons wish information on the question of intestinal obstruction, the roentgenologist, as a consultant, can be relied upon.

110 First Trust Building.

DISCUSSION

R. R. Newell, M. D. (Stanford University Hospital, San Francisco).—The matter discussed by Doctor Chapman is of great importance, for the radiologist's opinion is often the deciding factor for or against operation. To delay operation for more certain clinical signs may reduce the prognosis from pretty good to only half a chance of recovery. Doctor Chapman's tables only bear out the experience of others in this.

He is quite right not to put entire faith in the roentgen evidence. Paralytic ileus may be indistinguishable from organic obstruction. Even a bad pain in the belly, as from ureteral stone, may lead to gas-filled loops of small bowel. It is not always easy to distinguish large-bowel gas (innocent meteorism) from gas distending the ileum. Barium enema will permit one to make sure, and need disturb a very sick patient but little.

I have seen intestinal gas disappear completely from a case of obstruction of three days' duration.

If the patient can stand or sit, a film taken with x-ray directed horizontally gives a much clearer picture of distended loops of small bowel filled half with gas and half with fluid. I look on this technique as standard, rather than the prone position used by Doctor Chapman.

In a case of partial obstruction not localized by barium enema, if clinical evidence does not warrant immediate exploration, I consider it proper to give a moderate amount of barium by mouth. I would examine, fluoroscopically, every hour or so thereafter. One supposes that the radiologist and the surgeon are working in concert on all cases of suspected obstruction, and they must both realize that barium drunk may easily convert a partial obstruction into a complete one, and so force the surgeon's hand.

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L. H. Garland, M. D. (450 Sutter Street, San Francisco). — The earliest roentgen evidence of obstruction consists of an accumulation of gas proximal to the point of obstruction. Gas accumulation is found earlier and to a greater degree than is fluid accumulation (Ochsner). Sufficient gas accumulation to diagnose ileus has been observed as early as one hour after the onset of strangulated jejunal obstruction, and three hours after a simple jejunal obstruction. The lower the site of the obstruction, the greater the accumulation of gas and fluid.

The diagnosis of intestinal obstruction in its late stages is simple; the diagnosis in its early stages is difficult, but of far greater importance. Doctor Chapman wisely has emphasized the value of one or two dilated gas-filled loops of small intestine. Such a finding alone is not conclusive, but in conjunction with the clinical history is of major value in making an early diagnosis. As Doctor Chapman remarks, the radiologist must be prepared to be bold in making his interpretation.

The importance of finding out whether or not the patient has had morphin or other narcotic drug cannot be overemphasized; small-bowel stasis and dilatation are frequently seen following therapeutic doses of morphin. The frequency of meteorism in patients undergoing pyelographic examination must also be remembered.

In chronic obstructive lesions of the small intestine the dilatation of the jejunum or ileum can be enormous; we have seen two cases of carcinoma of the small intestine in which it was difficult, from the plain films, to state whether the dilated bowel was the small bowel or colon. The "ribbed" pattern of the jejunum was almost obliterated by the dilatation, but the shallow "ribs" still visible were sufficiently close together to suggest jejunal plicae rather than the colonic haustra.

All of the roentgenograms in Doctor Chapman's series were made with the patient prone. We have found it of value in many cases to make a vertical film as well (the patient sitting or standing, depending on his condition). The location of the fluid levels in the vertical film, in conjunction with the location of the gas shadows in the horizontal film, have been of value in localizing the point of obstruction; it is always difficult, of course, to do more than roughly approximate the exact area. One's tendency is to locate the point of obstruction much lower than it actually is.

In addition to diagnosing the presence of intestinal obstruction, one may frequently determine its *exact nature* by roentgen examination, especially in large-bowel lesions. Carcinoma, appendiceal abscess, intussusception, hyperplastic diverticulitis, ileocecal tuberculosis, and solitary polyp formation, may all present typical findings to the trained observer.

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John H. Breyer, M. D. (65 North Madison Avenue, Pasadena).—Doctor Chapman's analytical study and report should give us the courage to make earlier diagnoses. The death rate from intestinal obstruction is still frightfully high, and it can be lowered only by earlier diagnosis and prompt surgery. The roentgenologist gives us most important information early. The first step, of course, is a careful history-taking, an analysis of the onset of the attack and the physical examination. This should make us suspicious of the acute intestinal obstruction. Every means of corroborating this diagnosis must be employed. I consider the flat x-ray plate the next in importance. It is not necessary that the extremely sick patient be taken to the x-ray room. A portable x-ray apparatus can be used at the bedside, thus avoiding inconvenience or injury to the patient. The carrying out of other medical procedures need not be interfered with, and the strength of the patient is conserved. The next important tests are the blood chlorid and CO_2 determinations. Other corroborating tests should not be ignored, provided they are not too time-consuming, even though the x-ray findings are positive for intestinal obstruction. In our effort to make haste, we must not forget that the time used in restoring body fluids, the chlorids, and the giving of glucose intravenously, is time well spent.

Doctor Chapman speaks of negative or indefinite x-ray findings. I believe that the roentgenologist, when he analyzes the history and other corroborative evidence, as well as his own, becomes a very valuable consultant, because more intestinal obstruction cases come under his observation than that of any other member of the hospital staff.

The physician very often needs to take a positive stand when the case is first seen by him, and the surgeon often needs positive consultation in his own cases when intestinal obstruction develops in the postoperative period.

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Doctor Chapman (Closing).—Two of the discussers have mentioned the advantage of taking the roentgenograms of the abdomen with the patient in the erect position. I would long since have taken many of the roentgenograms in the erect position had our apparatus made it feasible.

Doctor Breyer mentioned that the examination may be done in the patient's room with a portable machine. I believe this could be done; but the constant tendency is for attending men to ask for work to be done with the portable machine which could be much better done with the larger machines, and which the portable machine cannot do satisfactorily because of its limited voltage and milliamperage.

THE TREATMENT OF VARICOSE ULCER AND VEINS*

By John M. Schmoele, M.D.
Los Angeles

Discussion *by Nelson J. Howard, M.D., San Francisco; E. Vincent Askey, M.D., Los Angeles; Norman J. Kilbourne, M.D., Los Angeles.*

THE injection treatment of varicose veins is at this time so generally accepted by clinicians that the operative excision method is considered more or less obsolete. Kilbourn,[1] after an extensive survey, including questionnaires to many leading clinics, considers the morbidity following the injection method so favorable, as compared to the operative excision, that the latter is coming to be regarded as both relatively dangerous and unsatisfactory. This survey included over fifty-four thousand cases.

Personal experience, including over eight hundred persons treated for varicose veins and ulcers by the injection method during the past seven years, has led me humbly to offer certain observations, which must certainly add evidence as to the safety and value of this procedure.

PHYSIOLOGY AND ANATOMY

In the erect posture, the propulsive action of the heart beat and arterial pressure have little influence on the venous circulation of the lower extremity. The extensive area of the capillary bed, as compared to the cross section of the artery, produces an almost zero pressure. The deep venous circulation is produced by the pumping action of the muscles of the leg as they press on the veins, which in turn are equipped with valves to prevent back flow.

It is this pumping action of the leg muscles which propels the blood from one vein chamber to the one above, thus producing an upward emptying of the veins. Any condition which cripples this venous pump, such as incompetence of the valves, immobilization in a plaster cast, etc., cripples the venous flow from the leg, unless the extremity is elevated to approximately the level of the heart. The superficial veins do not have this muscular support, and hence are not directly influenced by this muscle-pumping action. However, they are provided with numerous communicating branches, with their valves so placed that there is a constant onward flow into the deep veins.

Negative pressure during respiration and positive abdominal pressure are other factors in producing venous circulation.[2] As the abdominal veins have no valves, increased abdominal pressure sends the blood back against the veins in the legs, as well as into the thorax. Thus, during violent abdominal straining, the back pressure into the veins of the thigh is greatly increased; but as the deep veins are supported by the muscles of the leg, the superficial veins are subject to the full pressure. If we consider this intra-abdominal pressure, plus a normal hydrostatic pressure, we can easily conceive why varicose veins are so common.[3] I am convinced that mechanical back pressure is the major explanation of varicose veins, although we must consider congenital and hereditary weakness, as well as other undetermined factors which we are unable to recognize.

The valves in the communicating veins between the superficial and deep circulation are of major importance. If these valves are competent, the blood flows from a superficial dilated varix into the deep circulation, and no harm is done, except to add to the burden of the deep veins. This type of varix is manifested clinically as fatigue and heaviness in the leg, which the victim does not usually associate with his veins. However, if the communicating veins do not have competent valves, the surface varicosities are not as effectively decompressed. In this instance, blood from the deep veins leaks into the superficial group and reënters at another communicating vein lower down, thus producing a vicious circle. This phenomenon has been demonstrated many times under the fluoroscope, following Lipodol injections.[4]

VARICOSE ULCER

The venous back pressure on the capillary circulation becomes most abnormal and extensive. As capillary permeability is known to be affected by this back pressure and also by the increase of carbon dioxid and the lack of oxygen, there are produced definite nutritional changes in the leg.[5] Pigmentation, as the result of increased capillary permeability and diapedesis of red blood cells, is a most important diagnostic sign of impaired nutrition caused by varicose veins, even though the veins are not visible.[6] This condition precedes the development of what is termed "varicose ulcer." When the actual ulcer does develop, there is added to the already devitalized area the element of infection, accompanied by edema or cellulitis.

TREATMENT OF VARICOSE ULCER

Varicose ulcers, as we all know, respond to any treatment which relieves the venous back pressure and increases the capillary circulation through the tissues. Thus, rest in bed, with elevation of the affected leg, will invariably be of benefit. It has been our practice in these cases, when we consider the deep circulation patulous, to sclerose chemically all visible varicose veins by the injection method. The ulcer locally is dressed with a dry, absorptive dressing and compressed tightly with an elastic bandage, under which is placed a soft rubber sponge. At night the sponge and the bandage are removed, and the leg is elevated so as to utilize the force of gravity, to stimulate venous circulation.

In a series of fifty-three cases of chronic varicose ulcer treated by this method, the clinical results, as observed by accurate follow-up, have more than fulfilled our expectations. Some forty-five have reported complete cures; three report a return of the ulcer and from five we have received no answer to our communications.

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* Read before the General Surgery Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13–16, 1935.

MALIGNANT LEG ULCERS

When the deep veins have been damaged by a phlegmasia albadolens or a severe phlebitis, the problem of treatment becomes more complex. In this condition, there is not a diminution in the caliber of the veins, but an incompetence of the valves. Hence, we have venous back pressure greatly increased and the capillary pressure diminished. These cases present a pitiful but characteristic picture—edema, ulceration, infection and, in some cases, elephantiasis. Varicosities are also present, but chemical obliteration by sclerosing agents is of little benefit, as in this condition the deep tissues as well as the superficial are involved. Bandages also are of little aid. Any grafting operation will not succeed on account of the poorly nourished tissues.

TREATMENT OF MALIGNANT ULCER

Recently in treating this type of ulceration, we have used an ambulatory method consisting of frequent elevations of the leg, which utilizes the force of gravity to empty the veins of stagnant blood. The patient places a rope and pulley over the foot of the bed, and for five minutes each hour during the day, reclines and suspends the affected leg perpendicularly from the pulley. At night, the leg is elevated on pillows. As far as we know, this method is original, and in the few cases upon which we have based our observations, the results have been most satisfactory. Following this ambulatory treatment, or after a long continued rest in bed with constant elevation of the leg, the edema and induration will subside and the ulcer may be operated according to the method of Homans.[7] The entire ulcer area, including the scar tissue and underlying fascia, should be excised and Thiersch grafts laid on the deep tissues.

PRELIMINARY TESTS

Before proceeding with the obliteration of the varicose veins, it is necessary to determine the patulousness of the deep venous circulation and also absence of arterial disease. In obese individuals, it is often difficult to accurately locate the femoral-saphenous opening; hence the Trendelenberg test in our practice has been supplemented by a modification of the Perthe test.

Instead of applying the tourniquet above the knee, the foot and leg are tightly bound with an adhesive elastic bandage, and the patient is instructed to walk for fifteen minutes. If no pain is produced by this procedure, we consider the deep venous circulation patulous and feel that it is reasonably safe to proceed with the injection of the varicose veins. It is most important that a careful medical examination be made and syphilis be eliminated. Any deformities of the feet should be corrected. Fallen arches particularly should be supported by strapping or by properly fitting appliances.

SOLUTIONS USED

We have used at times practically all the sclerosing solutions which have been suggested—20 to 30 per cent sodium chlorid, 50 per cent glucose or dextrose, 50 per cent invert sugar, 2 per cent quinin and urethan, 30 per cent sodium salicylate; but have found that for general use, a 3 to 5 per cent aqueous solution of sodium morrhuate is the least toxic and the most satisfactory.

TECHNIQUE OF INJECTION

The sclerosing solution is injected with the patient either standing or sitting, in order to distend the veins and make the introduction of the needle easier. As soon as the needle enters the vein, the leg is elevated so as to bring the chemical into direct contact with the intima. We rarely use a tourniquet except in sclerosing segments of very large varices. Never more than one or two veins are injected during the treatment, in order to minimize any disability which may occur.

It has been our practice to follow each injection with an infiltration of Ringer's solution.[8] This procedure dilutes any of the sclerosing agent which may have escaped accidentally into the tissues, thus preventing sloughs. Following the injection, when the resulting thrombus is large, the application of an elastic bandage will give much support and comfort. In small veins this is not necessary.[9] We feel that ligation of the internal saphenous vein is an unnecessary procedure, and have discontinued the practice.

SUMMARY

1. The injection treatment is a safe and practical procedure for the obliteration of varicose veins in properly selected cases.

2. In simple trophic leg ulcer the obliteration of existing varices is a valuable therapeutic aid, provided the valves of the deep veins are competent.

3. For leg ulcer associated with edema, cellulitis, pigmentation and evidence of deep valvular incompetence (malignant ulcer), the injection of existing varices is of little benefit. Treatment should include frequent emptying of the vein by gravity, compression by bandages, and excision followed by skin grafts.

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DISCUSSION

Nelson J. Howard, M. D. (350 Post Street, San Francisco).—None of us will disagree with Doctor Schmoele in regarding injection thrombosis as the treatment of choice in dealing with varicose veins. It is very important for every practitioner to have in mind the altered physiologic and anatomic factors present in this condition, and so well summarized by Doctor Schmoele, in order to be able to treat competently the varied pathologic stages presented by the individual varicose patient. The gravity method of relief of venous stasis and tissue edema is a very valuable one and, as emphasized by Doctor Schmoele, does not take the place of compression bandage therapy, but supplements it. The use of the rubber or sea sponge beneath the elastic compression is not necessary, in my experience, if *sufficient* and *continued* elastic compression is maintained. Unna's paste boots applied to the huge, soggy, edematous limb without compression, fail to accomplish a cure of the ulcer. Previous elevation of the limb and gravity reduction of the edema, followed by the application of a Kleebro elastic adhesive bandage (or less comfortable, an Ace elastic bandage), and reinforced by repeated layers of Unna's paste, gives good continued sufficient elastic support to allow the ulcer to heal. It goes without saying, that the veins should receive thrombosing injections.

I do disagree with Doctor Schmoele in his use of the term "malignant ulcer," which, with accuracy, should be reserved for actual neoplastic changes arising in the scar of a healed ulcer, or in the unhealed margins of a long-existing chronic ulcer. My own belief is that every varicose ulcer can be healed, except those in which the deep veins are of insufficient caliber, and in which repeated thrombosis prevents sufficient recanalization to restore an adequate lumen for return of blood to the body. Edema, ulceration and infection may exist, but as long as the deep veins are sufficiently patent, competent or incompetent, I feel the ulcer can be healed by simple means. Long duration of the ulcer, presence of edema and eczema are no bar to success, and these cases cannot justly be said to possess a malignant ulcer. Huge ulcers, unhealed for 40, 31 and 22 years, with brawny edema and eczema, but with patent deep veins, have responded with healing in eight weeks or less, if obliteration of superficial veins is combined with adequate continued elastic support. Operation and skin-grafting were found unnecessary. Doctor Schmoele rightfully emphasizes the necessity of testing for *sufficiently* deep vein patulousness. In ulcer cases, with occlusion of the deep set of veins, I have not as yet found a satisfactory method of treatment.

A real advance would be secured if the medical profession as a whole would attempt the prevention of varicose veins. Varicose veins have no common cause. In certainly a third of the patients, they first are manifest in adolescent or early adult years, presumably through a congenital type of variation in vein-valve development. However, the thrombophlebitis following childbirth, operation, infectious diseases and trauma, are followed in a surprising number of cases by varicosities. Early and continued use of elastic support of the limbs of those patients with thrombophlebitis or edema is imperative, whether the condition follows childbirth, operation, or trauma. Adequate support to the superficial saphenous system, from the moment the patient is ambulatory, prevents the increase of edema, accelerates the recanalization of the deep thrombi, and tends to prevent or minimize future development of varicosities of the superficial saphenous system.

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E. Vincent Askey, M. D. (1930 Wilshire Boulevard, Los Angeles).—The injection treatment of varicose ulcer and veins has received, deservedly, so much discussion in the past few years that a simple understandable presentation of the factors involved and the treatment now in use is of practical value.

Doctor Schmoele has outlined in clear language the problem—the necessary Trendelenberg and Perthe tests (which are so often unknown to or neglected by the physician with little experience in this problem), and he has given the exact technique and the precautions to be observed, so that I feel therein lies the value of his paper. It is concise, definite, inclusive.

Doctor Schmoele's procedure, of regular hourly elevation of the leg in the treatment of "malignant" ulcer, I feel is a worthwhile innovation in that it avoids absolute inactivity and allows the patient to be ambulant. The morale of the patient and his coöperation will be increased because he will feel that something definite and of great importance is being done which he can see and of which he is a definite part. The psychology of this in itself is of value, and this procedure could be adopted with profit by all of us in the treatment of this condition.

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Norman J. Kilbourne, M. D. (2007 Wilshire Boulevard, Los Angeles).—The author is correct in advising pressure with the rubber sponge instead of the now antiquated Unna's paste boot. He is also right in the use of a dry dressing. Strips of cellophane paper across the wound will keep the dressing from sticking. This is a better treatment than the use of the many ointments.

In the treatment of ulcers associated with chronic infection of the lymphatics, hot compresses are helpful.

When there is a question as to whether pain in the legs is due to varicose veins or fallen arches, it is more likely to be due to varicose veins. However, certain cases, in which pain persists after injection of veins, will be relieved if referred to an orthopedic man for arch support.

Solution of sodium morrhuate is valuable in small veins where there is a possibility of extravasation, for the sloughs due to extravasated sodium morrhuate will heal more quickly than sloughs due to extravasated quinin. Sodium morrhuate is a soap which is so very variable in composition that potassium oleate is preferable. Potassium oleate is a similar soap, which is not only cheaper but definite and of invariable composition and effect.

In cases where there is a history of phlebitis and also in large veins with increased danger of phlebitis, quinin urethane solution is still preferable because it is bactericidal. The quinin remains in the tissues for more than five days and so affects the surface tension on the outside of the leukocytes that it prevents phagocytic action which might loosen the thrombus. Potassium oleate with a small amount of quinin added is now available. The author's attitude on ligation of the saphenous vein is correct.

PIGMENTATION OF METABOLIC ORIGIN: ITS RELATION TO THE AUTONOMIC NERVOUS SYSTEM*

By Irving Bancroft, M.D.
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Discussion *by H. P. Jacobson, M.D., Los Angeles; Sophie A. Lurie, M.D., Los Angeles; George V. Kulchar, San Francisco.*

This discussion is intended to be limited to the influence of the autonomic nervous system on abnormalities of pigmentation. The influence of light on pigmentation will not be touched upon. Neither will the causes of various hematogenous pigmentation be gone into. An attempt will be made to explain certain facts about metabolic pigmentation and the formation of melanin.

ORIGIN OF PIGMENT

Certain types of pigment definitely originate in extravasated or stagnant blood, but melanin definitely does not originate from the blood. It contains neither sulphur nor iron, which are essential elements in blood. Moreover, Eirowsky[1] has shown that melanin production can occur in portions of skin which have been cut off from the general circulation, and also in Thiersch grafts *in vitro.*

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* Read before the Dermatology and Syphilology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

Block and other German workers have devised some very complicated theories based on experimental facts, which are essentially as follows: The cells which are capable of producing melanin, or which contain melanin, are confined to the basal layer and to the deeper portions of the rete malpigii in light-colored races. These cells contain a chemical substance which is capable, under certain circumstances, of being so acted upon that melanin particles are deposited in the upper part of the individual cell. This reaction can take place artificially *in vitro* as well as naturally in the body. The synthetic chemical substance which is capable of bringing this about is called "dopa," and the word is derived from the first letters of a complicated organic compound. Dopa is a derivative of tyrosin, and if it is left in contact with frozen sections of human skin, certain cells of the basal layer become darkened, and this darkening corresponds with the degree of pigmentation of the skin which is used in the experiment. The same phenomenon occurs if dopa is incubated with human skin. But if the skin is heated, or if low concentrations of cyanid are allowed to be in contact with the skin, no dopa reaction or darkening takes place. This would seem to indicate that an enzyme is concerned in the process. In the skin of an albino, or in that taken from an area of vitiligo, no dopa reaction takes place. In other words, the elements capable of making melanin are absent from that area. The cells which are capable of developing melanin are called melanoblasts, and their number varies in different races, individuals, and localities.

AUTONOMIC NERVOUS SYSTEM

Briefly reviewing certain familiar facts about the autonomic nervous system, you will recall that the sympathetic nerve system is that section of the autonomic nervous system which arises from the dorsal nerves. This section of the autonomic system is distributed to all the smooth muscles and glands of the body. When it meets nerves from the cervical and lumbar sections of the autonomic nervous system in any organ or gland, its action is opposed to that of the local nerve. When this balance is perfect, the parts served are in a normal state; but when one set is stronger, a state of malfunction exists. This state of malfunction is often local and temporary, or may, in certain cases, be permanent. Temporary ascendancy of one or the other opposing nerves is dependent directly on emotions, and is usually not subject to voluntary control.

Anatomical and physiological researches show that all glands have a very rich nerve supply which comes from the autonomic system, and that changes in glandular activity are dependent upon stimulation of the accelerator or depressor branches of the autonomic nervous system.

INFLUENCE OF THE GLANDULAR SYSTEM ON PIGMENT FORMATION

The influence of the glandular system on the formation of pigment is not definitely known, but it is generally understood that the pituitary, adrenal and thyroid glands, at least, have some influence on the formation of pigment; and it is also generally understood that these three glands have a definite relation to each other. If thyroidectomy is performed, the pituitary gland increases in size, and if certain hormones obtained from the pituitary gland are injected into an animal, the epinephrin content of the adrenals is reduced.

Adrenal Glands.— From the medulla of the adrenal gland may be extracted a substance commonly called epinephrin, which has most extraordinary qualities. It stimulates the sympathetic nervous system just as though it were stimulated by nervous impulse. If injected into the blood, it causes blood sugar to increase, even to the point of glycosuria, the pupils to dilate, the blood vessels to contract, and the hair to stand erect. Even after the organs are removed from the body and kept in salt solution, the same effect takes place. It may be demonstrated by its action on the muscle of rabbits in amounts as small as one part in two hundred million (Cannon),[2] and on the heart muscle by one part in 1,400,000,000 or one drop in 22,786 gallons.

Diminished adrenal secretion, as observed in Addison's disease, is always accompanied by abnormal pigmentation which varies in color from light yellow to brown, or even black. The physiological explanation of this hyperpigmentation is that the defective adrenal glands fail to remove the substance in the blood which is the normal precursor of epinephrin, and that, as a result of this failure, there is an abnormal amount of this substance in the blood, and it acts just as dopa does. In fact, it is probable that it is identical with dopa in chemical composition.

Thyroid Gland.—Abnormal pigmentation sometimes occurs in hyperthyroidism, and according to Perrin [3] even regresses parallel with the decrease of thyroid secretion, and after thyroidectomy it disappears in a few days. The abnormal pigmentation which I have observed in hyperthyroidism is diffuse and not marked, and limited to the upper part of the chest and neck.

Pituitary Gland.—The pituitary gland, which physiologists tell us weighs about ten grains, also has some connection with pigment formation. It has a definite influence on the chromatophores of cold-blooded animals, and injection of an extract of the pituitary has the power to quickly cause color in those animals to darken. The amount of hormone which causes a deep red color to appear over a certain small area is called a phoximus unit, and is used as a definite measure of the melanophore stimulating hormone. Lack of this hormone in lower animals also causes loss of pigment. Beyer [4] cites a case in which an especially light-colored frog was found to have a pituitary gland in which the pars intermedia was entirely destroyed by a peculiar parasite.

COMMENT

Cannon and Brittan [5] showed, by the following experiment, that adrenal secretion was definitely dependent on the sympathetic nervous system. A cat, whose heart had been completely denervated, was confronted by an aggressive dog, and responded by all signs of anger, including standing of hair and acceleration of the heart beats by as much as fifty beats a minute. Afterward, the same experiment was performed, but the adrenal glands were inactivated: this time the heart beat did not increase in rate at all, or in some cases not more than two beats a minute.

Eliot[6] stated that the iris of a cat's eye, after being deprived of its sympathetic nerves, was dilated more widely than normal when it became angry, and that this effect failed to occur if the adrenal glands were removed.

Clinical facts regarding the rôle of emotion as a factor in sympathetic unbalance are less definite than animal experimentation, but nevertheless are noteworthy. Maranon[7] has collected an extensive series of cases of hyperthyroidism brought on by war experiences. Emerson[8] cites a case in which "the fiancée of a young man pretended to commit suicide in his presence. He departed hastily, and within a week had a swelling of his thyroid region and was nervous. Four months later he presented a large goiter, and his basal metabolism was up 24 per cent."

Cannon[9] also states definitely that emotional shock is sometimes followed by permanent diabetes.

REPORT OF CASES

Case 1.—One of the most marked personal experiences of that sort was that of a boy of nine who, for punishment, was put in a closet one Friday afternoon by his teacher. She went home and forgot him until late that night. Soon after this, he developed vitiligo and his hair turned iron-gray. His mother said that his hair turned gray the next morning, but I did not see him for several weeks, and that statement is of questionable veracity.

* * *

Case 2.—Another example is that of a man of fifty-two, who for years had had vitiligo. His son was killed in an automobile accident, and soon after this he lost his hair permanently.

* * *

Case 3.—Another young man had alopecia areata, from which he had practically recovered. He was later in the Long Beach earthquake, and in a few days the alopecia returned, more extensive than ever.

* * *

Case 4.—Another man was thrown twenty feet by an automobile, and within a week developed lichen planus.

COMMENT

The susceptibility to unbalance of the autonomic nervous system seems in some ways to resemble that of insanity. Families or individuals have a tendency to autonomic unbalance, and this unbalance may come spontaneously or be induced by some upsetting condition. I have noticed that vitiligo is frequently met in relatives. Giljarowski[10] found seven cases of alopecia areata among 293 mental cases, and Jordan[11] found two cases of vitiligo among ninety-one cases of alopecia areata. In addition to family or individual tendency to insanity or emotional unbalance, emotional strains act at times to induce both of these conditions.

Complete loss of pigment in deeply pigmented races is not unknown.

REPORT OF CASES

Case 5.—A Los Angeles negro, who presents photographic proof of his normal color at the age of eighteen, is now entirely white except for an area of about one square inch. He seems to be normal, except that he had an injury to his forehead when he was a child.

* * *

Case 6.—Another Los Angeles resident of Mexican ancestry has lost all her pigment, but no cause can be found, as she seems to be normal in every way, and her disease seemed to act like an extensive case of vitiligo.

CAUSES OF ENDOCRINE UNBALANCE

In addition to emotional shock or nervous strain as a cause of endocrine unbalance, one might place under suspicion: (1) syphilis; (2) toxins; (3) chemical poisons.

These may work by causing disease of some sections of the autonomic system, or by causing a susceptibility to unbalance; and in the case of syphilis, by action on the gland tissue itself.

Syphilis is a possible cause of sympathetic unbalance, especially congenital syphilis. Congenital syphilis may cause a fibrosis of glands which produce a deficiency of secretion rather than direct action on the sympathetic system. I have seen recently a man of thirty-eight who had syphilis in 1922 and vitiligo in 1927; but, as a rule, I have not found syphilis and vitiligo to be definitely connected. Von Recklinghausen's disease also sometimes gives hyperpigmentation, and probably does this by direct destruction of nerve tissue.

Diseases such as diphtheria, typhoid and tuberculosis may cause adrenal deficiency by direct action, and also by action on the sympathetic system. I recently saw a man of forty-eight who had typhoid when he was nine years old. Soon after that he had vitiligo and lost all his hair, which returned, but white in color. After several years it turned black, but he still has marked vitiligo.

Arsenic is the chief chemical poison which causes hyperpigmentation, and it probably causes this by direct action on the melanoblasts and not by any action on the autonomic nervous system. In fact, most hyperpigmented areas are caused by direct action on melanoblasts. Chronic friction, light, and certain inflammatory conditions are examples of this. Still, arsenic is also a possible cause of autonomic unbalance. It is my opinion, unsupported by figures, that I have seen herpes zoster and lichen planus frequently during the administration of arsenic, and, in isolated instances, urticaria, angioneurotic edema, scleroderma, and Raynaud's disease, which are all diseases in which the autonomic nervous system has some part in the etiology.

SUMMARY

Arsenic is the chief cause of local hyperpigmentation, but sometimes unbalance of the autonomic nervous system results in abnormal pigmentation. The autonomic nervous system may be thrown out of balance by violent emotion, by syphilis, by toxins of certain diseases, and by chemical poisons.

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DISCUSSION

H. P. Jacobson, M. D. (2007 Wilshire Boulevard, Los Angeles).—I am in complete accord with the views so concisely expressed by Doctor Bancroft, though I am well aware of the fact that the available supportive evidence is meager indeed.

The thesis of a probable endócrine-sympathetic-pigmentary relationship is not a new concept. The idea has been expressed a good many times before by clinical and experimental investigators in the fields of biology, physiology, and biochemistry. Supporting this theory of relationship is the well-known experimental observation that early removal of the hypophysis in the frog tadpole results in the production of a species with a greatly disturbed pigmentary system—the so-called silvery or albino individual. Then, again, it has been demonstrated that post-pituitary extract is capable of effecting a darkening in color of these albino tadpoles. Furthermore, when immersed in post-pituitary lobe-extract solutions, the pigment cells of the frog's iris expand and become darker.

The importance of the adrenals and thyroid gland need hardly be stressed here, except to point out the view that the cortical portions of the adrenals are probably more intimately concerned with the metabolism of pigmentation than are the medullary parts. It might also be added that the sex glands, too, probably bear some sort of a relationship to the biochemistry of pigmentation, as may be judged from the well-known clinical dermatologic pictures of the various types of chloasma—dysmenorrheic, pregnancy, and climacteric. Whether in these clinical states (chloasmas) the pathologic physiology is limited to the sex glands alone, or there is, in addition, an adrenal cortical factor, is at present an open question. It seems reasonable to presume, however, in the light of the supposed relationship that the members of this chain of glands seem to bear to one another, that in the chloasmas, as in all other pigmentary clinical syndromes, the spirit of coöperation governs their collective functioning. Thus, for instance, in the chloasmas, the glands primarily concerned in the disturbance are probably the sex organs, while the adrenals, pituitary, etc., play a secondary rôle. On the other hand, the characteristic bronzing in Addison's disease is primarily a result of diseased adrenals, though the other members of the chain are probably also affected secondarily. Again, the not uncommonly observed pigmented warts and plaques on acromegalic patients are, *a priori*, clinical expression of pituitary disease, though the thyroid and adrenals probably play a minor, albeit a definite part in the syndrome. Similarly the various forms of abnormal pigmentary manifestations so frequently observed in thyroid disease are probably a result of disturbed functioning of this gland, plus a secondary involvement of some of the other glands.

There seems to be a fair agreement among students of endocrinology that, normally, there exists an harmonious interrelation in the working of these glands, and that an abnormal functioning of one ultimately affects the physiological balance of all the others in the group.

Regarding the influence of the autonomic systems on the endocrines, and on the processes of metabolic pigmentation, little need be added to what has already been said. You will recall, for instance, that stimulation of the splanchnic nerves by any one of a number of stimuli (mechanical, chemical, mental, or emotional) results in an increased discharge of adrenalin by the medullary portion of the adrenal on the stimulated side. Conversely, sectioning of the splanchnic nerve supply to a given adrenal results in a marked diminution or complete stoppage of adrenalin output on that side.

Animal biologists tell us that certain animals are able to change their color from light to dark, or vice versa, according to the color of their environmental background. They explain this phenomenal ability of the animals on the basis of sympathetic action, by assuming that the color of the background, acting upon the sympathetics via the eyes, causes the chromatophores to expand or contract, and the animal thereby changes its color. In support of this assumption may be cited the fact that blind frogs and fish have lost their power to change color.

From the clinical standpoint we all know, for instance, that fright, worry, shock, and other types of emotional upsets are not infrequently productive of such clinical conditions as premature graying of hair, vitiligo, etc.; and it need hardly be stressed that even more so than emotional upsets, biochemical toxins and poisons may, and not infrequently do, act directly and banefully upon the endocrine and autonomic systems and cause various types of pigmentary disturbances.

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Sophie A. Lurie, M. D. (1025 Story Building, Los Angeles).—Is it not reasonable to speculate on the idea that syphilis attacks any gland of the system, and thus impairs or destroys its function? Clinical observations have shown us that syphilis of the pancreas produces manifestations of diabetes, which responds favorably to anti-luetic treatments.

We have seen also a case of congenital syphilis with a low basal metabolic rate when the thyroid gland was affected by syphilis. This responded spectacularly to anti-syphilitic treatment instead of specific endocrine therapy.

We presume that it may be worth while to think of the analogy of the above-mentioned facts, that, when the adrenals are attacked by the syphilitic process, vitiligo might be one of the clinical manifestations as a dysfunction of the regulation of pigment distribution. Considering the fact that our patients are asthenic to a greater or lesser degree and respond very impressively to bismuth salicylate intramuscular injections, we are inclined to believe that syphilis of the adrenals may be linked with the problem of vitiligo.

Five children of the Yale Street Health Center of Los Angeles are doing very well under bismuth salicylate intramuscular injections, combined with generalized quartz-light therapy; they are instructed to expose themselves to the sun.[1]

One of the patients (a thirteen-year-old girl) has had an area of vitiligo on the right cheek, in front of the ear, from birth, with a four-plus Wassermann. The rest of them have shown negative Wassermanns of the blood. The spinal test has never been taken.

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George V. Kulchar, M. D. (450 Sutter Street, San Francisco).—The studies of Bloch, Peck, and others, have given us an understanding of the cellular mechanism of pigmentation, but as yet there is no physiologic demonstration of the agency or agencies which control the processes of melanotic pigmentation in the skin. The causal relation between disturbances of pigmentation and the endocrine glands has been a frequent clinical observation, but we do not know if this action is caused by pathologic changes in the secretions of these glands or, in an indirect way, by the alteration of their vegetative nervous system control. There is a mass of evidence to indicate that the adrenals and the pituitary play an important part in the control of pigment metabolism. Recently Zondek has reported the presence of a melanophore-stimulating hormone in the pars intermedia of the pituitary. This hormone has been shown to be present, likewise, in the walls of the third ventricle, where the centers for the vegetative nervous system are located; attempts to demonstrate its presence in other parts of the body, except for small quantities in the blood stream, have to date been unsuccessful, a most interesting observation in the light of the vegetative theory of the nervous system control of the processes of pigmentation.

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[1] Elsewhere we have mentioned the principle of this treatment. (C. F. *Archives of Dermatology and Syphilology*, February, 1935. *Transactions of the Los Angeles Dermatological Society*, May 8, 1934.)

Addison's disease is, of course, the classic example of pigmentation following glandular insufficiency. However, in not all of the cases can actual histologic changes be detected in the adrenals. In a few cases the lesions are in other parts of the chromaffin system, such as the paraganglia and sympathetic ganglia, all derivatives of the sympathetic nervous system. Cases are reported following destructive lesions of these autonomic nervous-system structures, caused by carcinomatous invasion, tuberculosis, syphilis and bacterial infections and drugs, particularly the arsphenamins.

The supposition is that these patients have a congenital insufficiency of their chromaffin system which makes it more susceptible to injury. Whether this hypothesis is true or not, certain it is that interference with the secretory nervous supply of the suprarenal will result in melanotic pigmentation of the skin and mucous membranes.

Epinephrin, a product of the chromaffin tissues, seems to be in some integral way connected with the deposit of melanin in the skin. We know that epinephrin is closely related to tyrosin, a chromogenic substance, capable of producing pigments. The supposition is that, if the adrenal is functioning normally, the tyrosin is converted into epinephrin; but in case of hypofunction of the suprarenals, the tyrosin is unable to break down any further, and this may result in pigmentation.

Just a word as to the local processes of pigmentation. The hyperpigmentation, resulting from disturbances of the endocrine system, arising from lesions within the glands themselves, or, secondarily to interference with their autonomic nervous supply, appears to be merely a quantitative increase in the normal processes of pigmentation. The activity of the melanoblasts is greatly increased. Many more cells participate in the action, and the basal layer histologically appears a black band from which many dendrites ascend. However, the fundamental process of melanogenesis appears to be unchangeed.

RESULTS OF TREATMENT OF CONGENITAL LUETICS WITH BISMUTH ARSPHENAMINE SULFONATE (BISMARSEN) FOR FIVE YEARS*

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Discussion *by Hartzell H. Ray, M.D., San Mateo; Merlin T.-R. Maynard, M.D., San Jose; Stanley O. Chambers, M.D., Los Angeles.*

BISMUTH arsphenamin sulfonate, hereafter referred to by the trade-name "Bismarsen," has distinct advantages for the treatment of children suffering from congenital lues. It is given intramuscularly with less effort for the physician, and discomfort for the patient, than is an intravenous antisyphilitic drug. The local and general reactions are much less frequent and severe. The toxicity is less than from such common antisyphilitics as sulpharsphenamin, neoarsphenamin or mercurials, and the therapeutic effectiveness is very high. This means that children will be more faithful to therapy and good results can be achieved. Stokes and Raiziss[1] (the latter the originator), and Chambers,[2] have reviewed the chemical constitution and pharmacological properties of the drug.

CLINICAL MATERIAL FOR THIS STUDY

The use of Bismarsen was initiated in our Pediatric Clinic in 1930, as part of a coöperative study with Chambers. Many acquired cases in adults have been treated with this drug, but few cases of congenital luetics have been reported. Chambers and Koetter[3] observed a group of 180 children for from one and a half to two years, who had received over 6,000 injections, which is the largest and most comprehensive study. Our group comprises 170 children ranging in age from birth to sixteen years, observed for five years and having had over 3,200 injections. Our technique differed from that of Chambers and Koetter, since we were able to treat these patients only once a week, while their patients were treated twice weekly.

RESULTS

Reactions.—Reactions occurred twenty-six times, or less than 0.8 per cent, and twenty-two, or 90 per cent of the reactions were immediate, eighteen being nitritoid only and four also having purpura. The purpuras occurred twice in two patients, and in the only examination done, there was not a reduced platelet count. The nitritoid reactions were not very severe and were readily controlled by epinephrin. The Zarisch-Herxheimer reaction occurred once, two years after the patient started treatment with this drug. No reactions from bismuth were encountered. The infrequency of reactions, and their relative mildness, are two of the advantages of the use of the drug.

Toxicity.—The 12 to 15 per cent of arsenic in the arsphenamin and the 25 per cent of bismuth in the compound, make it necessary to watch for skin, liver, kidney, blood and peripheral nerve effects. Such were extremely uncommon. Two patients had a very mild albuminuric nephritis, which rapidly cleared. The reactions noted above might be added as toxic manifestations, especially the purpuras in two patients. One patient was desensitized successfully without a recurrence of the purpura. There were no instances of arsenical anemia, dermatitis, neuritis, or enteritis. This also applies to the less frequently encountered bismuth poisoning. The rarity of toxicity is another advantage of this drug.

Effects on Lesions.—Congenital lues in this locality is usually latent and tertiary, due to the widespread treatment of pregnant mothers. The clinical signs and symptoms are few (about 16 per cent of patients), and the diagnosis depends mainly on the serology.

Infants with secondary manifestations of a very active nature are usually difficult to treat with any drug. Bismarsen seemed to be less toxic to them, if given in very cautious doses beginning with 10 milligrams, and apparently controlled the dissemination of the spirochete very well. Only two such cases were fatal in a group of ten. Table 1 shows the favorable reactions the drug has on the lesions at all ages. Skeletal lesions healed rapidly and well, except in fatal cases. This applies in a lesser degree to skin and mucosal lesions. One infant with snuffles was very slow to heal, and required about two months. Eye lesions, mainly

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Read before the Dermatology and Syphilology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13–16, 1935.

Table 1.—*Twenty-four Patients Having Lesions*

Systems	Skeleton	Eyes	Skin	General Condition, Anemia, Nutrition, etc.
Number	7	6	7	10
Per cent cured or helped	85	70	72	70

interstitial keratitis, required, as is usual, about two months of therapy for good results. Bismarsen is rather slow in this condition. In general, patients, especially infants, responded very well despite the low figure. The drug has often proved a life-saver to infants suffering from very active lues. Two infants died, and one had a slowly advancing malnutrition, when the family stopped treatment.

Bismarsen is quite as satisfactory in controlling clinical lesions as are other drugs. In believe it is superior to neoarsphenamin, which is often too toxic for infants with florid syphilitic lesions.

Effects on Blood Serology—There was adequate check-up of blood serology on sixty-one patients, and this, on the whole, showed a very good percentage of reversal, or marked improvement—85 per cent.

If the reversal to negative and the less positive reactions are grouped, the percentage of patients who were improved is 85 per cent. If only the negative serology is considered, the percentage is 61 per cent. As will be noted later, very few have had a relapse to positive serology. It must be recalled that many of the patients with positive serology will eventually become negative. This is even true in children who start therapy after the fifth or tenth year, and more true if therapy is started in early infancy. This experience is quite parallel with many other drugs used for congenital lues.

It is notable that nearly 100 per cent of the infants are blood curable with Bismarsen. They averaged two courses covering about one year of time.

Children between two and five years of age were also almost 100 per cent blood curable, and required about two courses. The proportion of blood reversiblity is around 50 per cent for children starting therapy between five and fourteen years of age. Here the latent tertiary condition of congenital lues resisted with Wassermann fastness, and often three to six courses of from one and a half to three years of persistent treatment were required. Regular therapy was more important than the number of injections, although, if it were practical, better results might have been achieved with treatments twice weekly rather than once a week.

Effects on Spinal Fluid Serology.—Thirteen patients, of a group of forty-three that had spinal fluid examination, showed evidence of central nervous system lues. Another group of fourteen, not so examined, had very suspicious evidence. This is a rather high incidence; at least 30 per cent of the children examined had nervous system involvement. Only three patients have been rechecked after therapy, and fluids were reversed to normal findings; one, an infant, after twelve treatments during two and a half months, has had no recurrence in four years; the second, a fourteen-year-old boy, after 114 treatments in three and a half years, and the third, a girl of seven years who had only one year of treatment. The other patients were either unable to continue treatment with this drug, for various reasons, or have not been rechecked by spinal puncture.

Direct appraisal of its effects on central nervous system lues cannot be given, but certain generalities seem to be definitely known. Bismarsen has caused reversal of blood serology in four other patients, where reëxamination of the spinal fluid could not be done. There was also very definite improvement in the personality and behavior problems, which are so characteristic of many congenital luetics, in two of our patients. We have seen the drug act as a life-saver in two infants with positive spinal fluid. Furthermore, nervous system

Table 2.—*Blood Wassermann After Therapy*

Number of Courses	0-1	1-2	2-3	3-4	4-5	5-6	6 Plus
Age Group 0 to 2 Years							
Number patients	1	7	2	......	......	1	......
Per cent negative	100	87	100	......	......	100	......
Per cent less positive	......	13	......	......	......	......	......
Per cent unchanged	......	....	......	......	......	......	......
2 to 5 Years							
Number patients	2	4	2	1	1	......	......
Per cent negative	100	100	100	......	100	......	......
Per cent less positive	......	......	......	......	......	......	......
Per cent unchanged	......	......	......	100	......	......	......
5 to 14 Years							
Number patients	2	23	7	1	1	1	3
Per cent negative	50	50	72	100	......	100	33
Per cent less positive	....	29	14	......	100	......	33
Per cent unchanged	50	21	14	......	......	......	33

symptoms have progressed in only five of the forty-three patients, and only one of the five had much therapy (twenty-nine injections in nine months). There is no instance in twenty-four cases, with known freedom of the nervous system before treatment, in which they developed positive changes.

On the whole, Bismarsen is very helpful, since it penetrates the nervous system better than the other arsphenamins including tryparsamid (Raiziss).

COMPARISON WITH OTHER DRUGS

For two years prior to starting Bismarsen in our Luetic Clinic, only 14 per cent of twenty-seven patients, who had received various drugs, had attained negative serology. This is in marked contrast to 61 per cent of sixty-one patients who have received the present drug since 1930. Part of this difference, however, may be attributed to a more efficient follow-up in vogue at present.

Jeans and Cooke,[4] who used mercuric chlorid and a little sulpharsphenamin for infants for six months' or more treatment, reported that 72 per cent were serologically negative for at least three years. Jeans and Cooke added bismuth intramuscularly for children over one year of age. They reported 12 per cent of cures of those under treatment more than six months and less than one year, and 44 per cent cures of those treated more than one year. Comparatively, Bismarsen figures are about 50 and 43 per cent, respectively, slightly superior.

Stokes,[5] while considering that arsphenamin brings about quicker transformations than neoarsphenamin, has stated that Bismarsen is equal to or better than arsphenamin with bismuth or mercury. He remarked recently that it "has appealed to us as a moderately effective but not particularly impressive agent for the treatment of active tardive prenatal syphilis. It reverses approximately half the apparently fixed positive serological cases, but in interstitial keratitis is too slow, and is comparatively ineffective in prenatal neurosyphilis." I would agree as to the eye condition and the neurosyphilis, but the results in this study of non-neurosyphilitics, largely (70 per cent), show that from 61 per cent to 85 per cent have had a serological blood cure. Chambers and Koetter have reported excellent results with Bismarsen. Sixty-five of one hundred patients had complete Wassermann reversals after three courses of treatment. Only 3 per cent of these patients had serological relapse twenty months after the last treatment; 2 per cent after sixteen months, and 2 per cent after twelve months. Chambers and Koetter attained complete serological reversal in Wassermann-fast cases in 51 per cent of these, and only 8 per cent of them showed ultimate relapse. If sustained, this is a truly remarkable record. Wright,[6] an authority and leading exponent of the use of bismuth, reported 74 per cent reversals of blood serology by the use of bismuth only, 56 per cent reversals by the use of neoarsphenamin or sulpharsphenamin with bismuth. These figures include 150 children enrolled during a ten-year period. Again Bismarsen is somewhat more effective.

RELAPSES

Clinical.—Relapses have been few in number, and are known to have occurred in about ten of 170 patients, mainly in infants with florid secondary lues, which are notoriously difficult to control or cure. Three of this group were neurosyphilitics approaching puberty, another trying problem. Only one case of keratitis relapsed.

Serological.—There was known recurrence in only eight of 170 patients. In one infant the blood remained negative during therapy from the age of seven months to three years, when it again became positive, despite continuous treatment. Two other infants relapsed six months after one course from negative to three plus, but they finally became negative.

Most of the sixty-one patients who had reliable follow-ups have had negative serology from one and a half to five years after the cessation of therapy. We have been unable to follow all of the 170 patients who started therapy. It is possible that even during faithful therapy more clinical and serological relapses would have occurred. The incidence is probably no greater, at the least, than occurs with the other arsenicals, or bismuth alone, or both. However, conversely, an even greater recurrence has probably happened in those patients who have ceased Bismarsen therapy and disappeared.

SUMMARY

1. Bismuth arsphenamin sulfonate (Bismarsen), for the treatment of lues in children, has the great advantage of ease of intramuscular administration. This insures a more constant and prolonged period of therapy, so necessary for congenital lues.

2. Reactions are less common than with the usual antisyphilitic drugs; these occurred in about 0.8 per cent of injections; the local reactions are very mild; the general reactions are more common, usually nitritoid and not often severe.

3. Toxicity is rare. Purpura was the common toxic manifestation.

4. Lesions, especially those in infants, heal promptly. Interstitial keratitis, however, is the slowest lesion to respond.

5. Over 3,200 injections have been given to 170 children during four and a half years.

6. Adequate check on sixty-one patients shows that 61 per cent have a negative blood serology, and 24 per cent show marked attenuation, a total of 85 per cent helped.

7. Patients with neurosyphilis were definitely improved, and further complications probably prevented.

8. Our experience, and that of others who have used various antisyphilitic drugs, indicate that bismarsen is superior for congenital luetics.

9. Clinical relapse occurred in less than 1 per cent of the patients and known serological recurrence in less than 0.5 per cent, although it is apparently too early for final figures.

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DISCUSSION

Hartzell H. Ray, M. D. (23 Third Avenue, San Mateo).—Doctor Reilly is to be complimented for giving bismarsen a five-year trial before reporting on it. Antisyphilitic remedies need many years of study and wide use to determine their true value. In this study of the use of bismarsen in congenital lues its advantages appear to be ease of administration, low toxicity, equal or better than average serological reversals of Wassermann, and early clinical recovery from symptoms of acute lues. Because of the ease of administration and better attendance of the patient, a more complete course of therapy may be given. This may account in part for the more favorable results obtained. The low toxicity may possibly be due to the fact that this drug contains only a small amount of arsphenamin per dose. Bismarsen, similar to most antisyphilitic remedies used in congenital lues, seems to give the best serological results when used in children before the age of two years, and when given fairly regularly over a period of time. Bismarsen, in ages over two years, seems to give a little better than average serological result. Because of its evident advantages, bismarsen is a drug that should receive a more widespread clinical trial.

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Merlin T.-R. Maynard, M. D. (Medico-Dental Building, San Jose).—Doctor Reilly has covered the use of bismarsen in the treatment of congenital luetics very completely. I feel that whatever comment I can make will be simply that of emphasis.

I would question, however, his statement that bismarsen is less toxic than neoarsphenamin. I believe that if equivalent therapeutic dosage be given, we will consistently find that arsphenamins containing sulphur in their compound are distinctly more likely to produce constitutional reactions and damage. Nitritoid reactions occur quite commonly, and purpuric reactions are also definitely more frequent.

Something should also be said for preliminary iodid therapy. I believe the intravenous administration of sodium iodid to be a very valuable preliminary to all arsenical therapy, particularly in those cases in which the liver is large and liver function is distinctly damaged. I further believe that the giving of liver extract is also worth while in connection with the bismarsen therapy.

The great group of luetic children are treated by the family physician, where the ease of administration of bismarsen and the good results in treatment outweigh the danger of reactions. I want to emphasize that the attention of the general practitioner must be directed toward these complications as much as toward its therapeutic benefits.

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Stanley O. Chambers, M. D. (1260 Roosevelt Building, Los Angeles).—Bismarsen is a drug proved of value in the treatment of syphilis, and particularly adapted to the infant and child. Its simplicity of administration and apparent therapeutic effectiveness emphasize that adaptability.

Doctor Reilly has treated and observed a very well-controlled group in the congenital class, and his results merit careful and thorough consideration. It is true that there were evidences noted in our original group of a tendency for the drug to act more slowly than other of the arsphenamin derivatives. This fact may, however, be an advantage rather than a disadvantage when we consider the desirability of slow healing where vital tissues are involved.

We already appreciate the need for utilizing this principle in hepatic syphilis. When we eliminate this questionable point from the list of therapeutic effects, bismarsen appears to equal if not exceed the value of other drugs commonly used in the treatment of the congenital syphilitic. Its almost negligible incidence of untoward reactions and its great simplicity of administration certainly should warrant its place in the therapeutic armamentaria if the record of effectiveness can be sustained.

THE LURE OF MEDICAL HISTORY†

DISEASES OF THE INDIANS OF LOWER CALIFORNIA IN THE EIGHTEENTH CENTURY*

By S. F. Cook, Ph.D.
Berkeley

Foreword.—A translation of a chapter from: Descripción breve de la California, su situación, extensión, costas, etc. Con otras noticias que pueden conducir para el conocimiento de ellas. El autor de esta descripción fué un Misionero Jesuita de la California. (Probably about 1770.)

Translator's Note.—There is no doubt that the following short treatise represents one of the earliest attempts by a contemporary observer to discuss, in a comprehensive fashion, the diseases to which the Pacific Coast Indians were subject after the advent of the white man. The author does not attempt to consider at length the native maladies and the native cures, but limits himself primarily to syphilis and the epidemic plagues which were observed in Lower California. Although he writes anonymously, the author states that he was a Jesuit missionary in this region for many years and, therefore, his statements may be considered as first-hand evidence. The original document, from which this excerpt is taken, is in the Biblioteca Capitular Columbina in Seville, Spain; and a transcript is in the Bancroft Library at the University of California, Berkeley.

* * *

It is an unquestionable fact that the climate of this section of California is well suited to foreigners, and much more so to the native Indians. These natives are, commonly, of a very ruddy complexion and of a hot-blooded nature. They have a cooling fruit, which helps to relieve this condition. To my sight, the cause of their robustness is the frugal way of living which they, of necessity, must endure. Although the races, fights, and other exertions in which they indulge occasionally give them injuries of the chest, it is also certain that, through them, they lay aside their ill-tempers. Their freedom from worry and care, their simple way of living, and their simple diet, all help to prolong their lives.

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† A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany department, and its page number will be found on the front cover.

* From the Division of Physiology, University of California Medical School, Berkeley, California.

SYPHILIS[†]

Nevertheless, they have suffered from many serious epidemics of spotted fever, smallpox, and other fevers which have destroyed many people. However, the disease which has killed most of the Indians of the missions has been syphilis. It has been spreading so rapidly that, after having annihilated all the people of the South, it has penetrated to the North; and in the most prosperous missions, where formerly were to be found thousands of inhabitants, they are now found hardly numbering into the hundreds. Fatal misfortune! Some believe that this disease is of native origin, in that they have seen heathens (I have seen many) present that were infected with other sores and boils. I have noticed that these sores are not as bad as those which afflict the Christians. This leads me to believe that they might be of another kind, because the heathens never remain disabled for their tasks, and they are cured with the greatest ease and in a short space of time. The sores of the Christians are cured with the greatest difficulty, and the disease spreads with great rapidity among them, while the heathens hardly ever infect each other.

Others are of the opinion that the soldiers, who lead a very free life, have spread this dangerous disease. I withhold my judgment on this particular, for I have reasons for not agreeing with this opinion. Some say that it is a punishment of the Indians for having taken the life of Father Tamaral, missionary of San José del Cabo, and this opinion has spread greatly in California. I am neither agreeing nor disagreeing, but only expounding that which is clearly shown by legally filed documents and by truthful testimonies. Two insurrections have been verified as having taken place among the Indians called Pericos; one in 1734, and the other in 1740. In the first place, they killed their Father and founder, Nicholas Tamaral; and, secondly, the commanders and others of the ship from China.

MALARIA

By October of 1742 there fell on the Pericos an epidemic so unusual that each one fled from the rest. Five hundred persons died, and the disease lasted for a little less than two and a half years. From the Mission San José the disease spread to Santiago, and from here it passed to Todos Santos; from Todos Santos it took a startling leap and began in the northernmost mission, which is San Ignacio. From here it spread to Rosalia and Guadalupe. This pestilence was so widespread that no one escaped it. This plague or disease began with recurrent spells of four or six days [malaria], or with spotted fever; and with such vehemence that some died within two, and some within three hours. I might add that although all fell sick, only those who were accomplices in the insurrection died. Others found that the juice of the lemon or frequent bathing was beneficial; but to the insurrectionists such treatments were fatal.

By the year of 1735, when a ship arrived from China, the Indians were still in a state of insurrection. They pretended that the Father was in the mission, and they offered to conduct the members of the ship to the mission under the pretense that they were guides; and then killed all those who had chosen to accompany them. It has been impossible to determine the number killed, but it was noticed that the murderers and others of their rancherías were soon struck by scurvy, the same illness that afflicted those of the ship.

MEASLES

On the twenty-fifth of December, 1748, another epidemic of measles began, and 150 at the Cape [Cape San Lucas] alone died. By July of 1768 another very contagious disease of many sores and pimples spread so rapidly through the people that they nearly all died, and it was so violent that even the Father of the Mission San José, Juan Moral, lost his life. Only twelve Pericos survived, and these were infected with syphilitic sores. When an expedition from France and Spain arrived to observe the transit of Venus, they all fell sick; and one member of the Parisian Academy died. On different occasions the South has been populated with Indians from the North, but they have all perished. This last disease from which they have suffered has raised so much havoc among the missions that it has left them without Indians capable of doing the most necessary tasks that require any skill whatever. This is the true epoch of the birth of a new and unknown disease. The Indians have experienced their pestilences just as have other nations of the world. They have experienced epidemics of smallpox only on two occasions, but fevers four or five times. Not even the lack of care they have had, their meager diet, or the many absurdities which they practice has been the cause of these annihilations. I have made experiments and can secure immunity from them as has been done in the Mission of Guadalupe and San Vincente.

CHAMELEON TEA

For other syphilitic ulcers it has been shown by experiment that the application of the juice of the *cardón* (or cardencha), while extremely painful, is very beneficial. Chameleon water has the same effect as ointments, and I have tried it on two Indians and the result was satisfactory. The chameleon is put in a pot and three-quarts of water are added. The pot should be tightly covered to prevent evaporation, and the mixture should be boiled down over a slow fire until only one quart remains. This water is drunk before breakfast, and the patient should be well covered and carefully watched. This operation is repeated for three days, and having sapped the physical strength of the patient by salivation and perspiration, the sores are washed with sea water. A few have been cured in this manner.

[†] Subheadings are not in the original text.

OTHER REMEDIES

For other sores which are not as serious, I have seen the heathens crush the foliage of a plant resembling a mangle tree,[1] and this juice makes a more effective cure than the ointment of the isis[2] or amarillo.[3] It heals the sores, kills the worms, and restores the flesh. For this last operation the powders from an herb resembling the *manso,*[4] which grows on the edge of the swamps, are very effective. I have seen the deep wounds inflicted by bulls cured by the roasted roots of the *carrizo,*[5] and I have cured such wounds by the same method myself. The *lentejuela,*[6] which abounds on this frontier of San Miguel, is particularly effective against boils and ulcers. The plants *yerva des pasmo,*[7] *yerva del venado,*[8] *yerva del fabardillo,*[9] and *choya*[10] are very good for bladder stone. In short, if, from the beginning a diligent search for the medicinal powers of the many plants which grow in California had been made, this information could have been gathered into a rare and useful book on medicine. With the knowledge that I have of the language of the Californians, I have been able to make these findings for myself; and if the many tasks and pursuits which surround the daily life of a frontier missionary did not take up the major part of my day, I would be able to add to these findings; but let that suffice. Let each one form the opinions he pleases, the fact still remains that the actual disease has spread through all of the missions with the exception of those on the frontier.

It is certain that there are a few missions in which the converted Indians have had many singular ailments of the chest, and in others they are very robust. In a few missions the natives believe that to become baptized is to become afflicted with numerous ailments, because their neighbors, who are heathens, are healthy and hardy. Their condition can be ascribed to the way they live, which is altogether different from that of the Christians; and this fact should be borne in mind by the missionaries. It is very necessary to understand them, and they should not be removed too suddenly from their native haunts.

University of California Medical School.

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[1] The mangrove, *Rhizophora mangle.*

[2] Probably refers to the holly, *Primus ilicifolia.*

[3] This term was applied to numerous plants of different species.

[4] The olive, probably *Ximenia americana.* The olive was used medicinally throughout tropical America.

[5] A kind of coarse sand grass, *Phragmites communis.*

[6] Literally lentil. More likely some kind of acacia, possibly *Acacia lentisafolia.*

[7] Ribbon wood, *Adenostoma sparsifolium.*

[8] A shrub, *Porophyllum gracile.*

[9] I can find no trace of this plant in the modern literature.

[10] A cactus, *Opuntia cholla.*

Every advance in our knowledge increases the potential capacity of man. But the mere increase of knowledge, and particularly the knowledge of preventive medicine or the ways and means of personal hygiene and well-being, can do nothing of itself to prevent disease and to safeguard health, unless it be understood, accepted and practiced.—Sir George Newman.

CLINICAL NOTES AND CASE REPORTS

EPITHELIOMA OF SCALP*

REPORT OF CASE

By George J. Heppner, M.D.
San Francisco

Mrs. M. F., age forty-eight, housewife—an average healthy, normal woman, a disciple of faith healers. In 1928, while dancing, she was accidentally bumped on the head by a friend's elbow, causing a hairpin to penetrate through the scalp, just above the left ear, and drawing blood. There was no particular discomfort attached to the injury; but during the course of the year a small tumor mass, pedunculated in character, started growing at the site of the original injury. A faith-healing practitioner was called in consultation, and despite his earnest endeavors, the tumor mass continued to grow for the next four years. She was first seen by a physician in 1932, at which time she had a pedunculated cauliflower-like mass just behind the left ear some eight centimeters square; there were many crypts in the mass; it exuded a foul-smelling purulo-sanguineous discharge, and it was necessary, at all times, to keep the tumor mass covered with cotton and dressing.

In an endeavor to correctly inform the patient as to the necessity of surgery, too much emphasis on prognosis was given by the doctor, and the patient decided to die, if necessary, with the tumor mass on, rather than to subject herself to surgery. On October 18, 1934, due to persistent efforts on the part of the patient's husband—partially on account of a continuous dribbling of purulo-sanguineous matter down her neck, and partially on account of a new-born faith in surgery—the patient consulted the writer, and surgery was agreed upon.

Examination at this time showed a large tumor mass just behind, and involving the left ear, some 8 by 10 centimeters in size, and 22 centimeters off the base of the scalp; the tumor appeared very similar to brain tissue but, of course, was entirely independent of the cranial contents, being connected to the overlying skin only. An x-ray revealed no bony involvement. The physical examination showed the patient to be in an advanced stage of carcinomatosis with cachexia. The heart had an occasional dropped beat. The lungs showed occasional diffuse coarse râles. The liver and spleen were both noticeably enlarged; and the urine showed many pus cells, but was otherwise negative. There was a moderate ankle edema; large external hemorrhoids, and a copious vaginal discharge.

With only the thought in mind of relieving the distressing situation on the head, and realizing that the patient was too far gone for cure, surgery was decided upon.

Procedure.—Under avertin and gas anesthesia, with the radio knife, the entire mass was excised down to the skull. Bleeding was stopped by electrocoagulation, ligation and suture; but few vessels were ligated in the entire area, the electrocoagulation taking care of most of the bleeding.

After the entire mass and area had been removed and cleaned up, the remaining tissues had a healthy appearance. In order to cover this vast denuded area, a plastic operation was performed, moving over a considerable amount of skin from the face, which was slipped back by a sliding graft; also the skin of the neck was undermined and slipped upward. The skin of the forward and upward part of the face was slipped backward; the skin of the back of the ear likewise was loosened and stretched backward so that the area

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* The author wishes to express his appreciation for the kind coöperation of Dr. Ferd W. Callison of this city at the time of surgery; to Doctors Ingber and Rodenbaugh, for their coöperation with the x-ray therapy; and to the general and pathological staff of the Mt. Zion Hospital, at which organization the work was done.

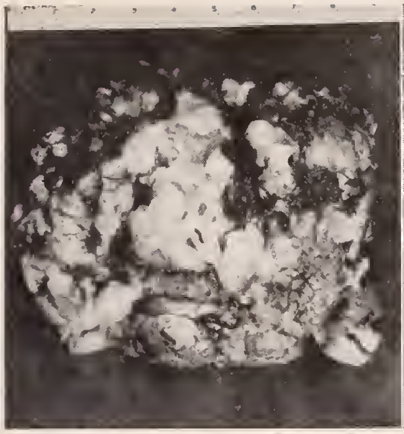

Fig. 1.—Pathological specimen hardened in formalin 7.5 x 9.0 cm.

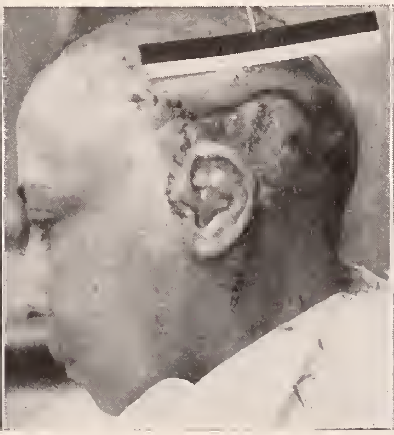

Fig. 2.—Three days after surgery, showing location of tumor, and result of sliding skin graft. The area between the suture lines, subsequently sloughed away.

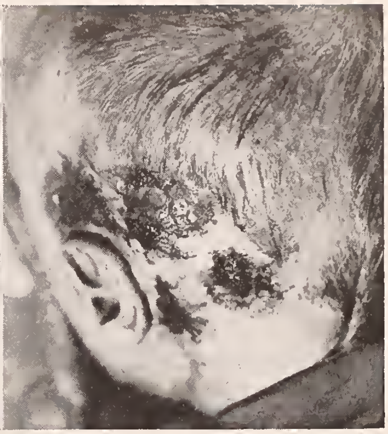

Fig. 3.—February 12, 1935, sixteen weeks after surgery — shows practically complete healing. Dark areas are scarlet red ointment.

was covered with the extension, with an exception of an area of 4.4 by 6.6 centimeters in the center of the same. This area was then covered with vaselin gauze; dressings were applied; a rubber dam was inserted through a stab puncture at the lower edge of the wound in the neck; a sponge was placed over the lower face and neck in the area where the largest graft was performed, and the entire area was tightly bandaged.

Pathological report of removed tumor mass: Basal cell epithelioma.

Progress notes: Uneventful convalescence in hospital for ten days. Use of hot oil (olive) compresses instituted, changed every three hours. At discharge, it became evident that graft transplants were due to fail, as slough and gangrene were already developing.

November 15, 1934: At point where drain tube was inserted, there has developed a definite epithelioma of almond-sized proportions. X-ray therapy instituted.

December 6, 1934: Head looks remarkable; drainage has ceased, and the new epithelioma has flattened down to level of skin.

December 18, 1934: For the past two weeks has been on urotropin, with some improvement. Has a good deal of general pain, especially right arm and leg (always lies on these); first attempt to lie on her back, successful. Abdomen swollen considerably, but no fluid wave is present. Quite unable to palpate through the abdomen, but there is definite epigastric fullness, which probably is the liver enlarged. Prognosis, poor.

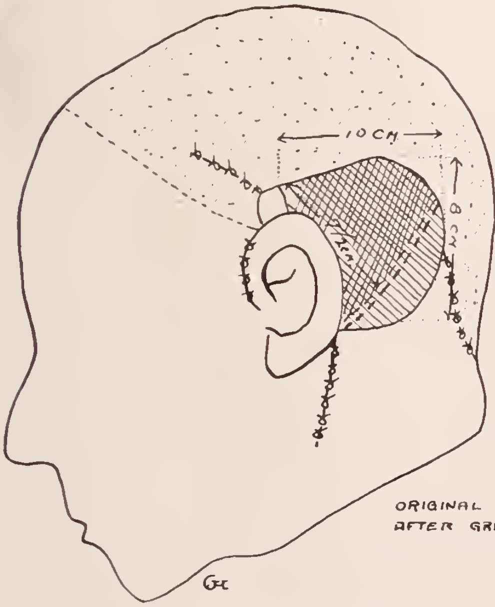

Fig. 4—M. F.—48. Epithelioma scalp. Location and size of tumor before surgery and after sliding graft.

December 25, 1934: Continues poorly. The liver occupies the upper half of the abdomen. Edema of ankles and thighs is intense. The head meanwhile is healing wonderfully well.

January 2, 1935: No changes generally. Teeth have lost good deal of calcium, and have become sharp. Dentist to file teeth smooth.

January 16, 1935: Been running septic temperature for a week; coughing more. No change in general condition.

January 30, 1935: Temperature normal all week. Some relief at night with use of codein tablets. Still using urotropin; also bromids for nervousness.

February 5, 1935: Head practically recovered. Last x-ray treatment today.

February 12, 1935: Edema of both legs still intense; there is also some edema of the back; and a good deal of swelling in the right arm. Salyrgan 10 per cent, one-half cubic centimeter given intravenously.

March 15, 1935: Beginning signs of uremia, with anuria; muscular twitching, and lapse of memory.

March 17, 1935: Expired of uremic poisoning.

X-ray treatments were given this patient through the office of Doctors Ingber and Rodenbaugh of this city. The dosage and frequency of treatments was as follows: 3250 r-units in divided doses in eight weeks, using two ports 40 centimeters distance, 140 k. v., and copper filter.

490 Post Street.

BENIGN HYPERTROPHIC PROSTATE

REPORT OF CASE OF LONG STANDING PERSISTENT BLEEDING FOLLOWING TRANSURETHRAL RESECTION

By Charles C. Falk, Jr., M.D.
Eureka

A NUMBER of cases of moderate to massive hemorrhage immediately following transurethral resection are reported from time to time in the literature. The following case differs from these in that no unusual bleeding occurred immediately after resection, but that moderate to marked hematuria persisted for four months following resection, despite all efforts to stop the prostatic bleeding.

REPORT OF CASE

G. M., aged 58 years, married, white male, father of three children. Occupation, sheep rancher. Complaint: Frequency and difficulty of urination of two years' standing. General examination revealed a well-developed, well-preserved man, whose general appearance was the picture of health. Weight, 162 pounds. Height, 6 feet. There were no pathologic physical signs in any of the systems, with the exception of the lower urinary tract. Rectal touch indicated a prostate approximately four to five times normal size, symmetrical, moderately tender, and movable. On catheterizing the bladder after voiding, 75 cubic centimeters of residual urine was present. Urinalysis was as follows: Color, amber clear; no threads; reaction, faintly acid; specific gravity, 1012; albumin, negative; sugar, negative; microscopical, three to four pus cells per high dry field; no red cells; no casts. A cystourethroscope was passed in the office and the intravesicular hypertrophy was observed. Considerable median lobe hypertrophy was noted, together with moderate lateral lobe enlargement. A diagnosis of benign hypertrophy was made and the case was considered a suitable one for transurethral resection. The patient was taken to the hospital and a vasectomy was done, following which the bladder was drained by way of the urethra by intermittent catheterization for a period of three days. A phenol red test at the time showed kidney function to be within normal limits. Under spinal anesthesia, with a McCarthy resectoscope and a Rose tube gap-cutting unit, six sections were removed from the median lobe, and three sections each from the two lateral lobes. All bleeding points were satisfactorily controlled by means of the coagulation current. A No. 30 French retention catheter was left in the bladder for two days. After this time the patient was allowed to void, and was dismissed from the hospital on the eighth postoperative day with no complaints and little or no residual urine. The pathologist's report on the sections removed were adenomatous hyperplasia of the prostate, with no evidence of malignancy.

The patient was seen biweekly, sometimes weekly, at the office for the next three and a half months. Three weeks postoperatively the patient stated that on two occasions, on arising in the morning, his urine appeared wine-colored or bloody, and at this time he brought a urine sample, which was grossly bloody. Urinalysis of a specimen voided at the office at this time was as follows: Color, smoky, with moderate amount of flakes; reaction, alkaline; specific gravity, 1015; albumin, one plus; microscopical, red blood cells full field; ten to fifteen pus cells per field. The bleeding was thought to be due to secondary infection, so the patient was irrigated twice weekly with 1:7000 potassium permanganate solution. He seemed to improve for a time, but after one month of such treatment his urine again became grossly bloody, so it was decided that some unusual condition existed at the site of resection. A McCarthy panendoscope was passed in the office, and the resected area was clearly observed. Several arteriolar bleeding points were noted, and these were subsequently fulgurated. Following this procedure the hematuria cleared for about ten days, only to recur the same as previously. During the next six weeks these bleeding areas were fulgurated on three different occasions, all without avail. It was then thought that some systemic condition was present. A Wassermann was taken, and returned negative. A platelet count showed the platelets to be normal in size and number. Clotting time was normal. A red blood count and hemaglobin estimation were as follows: hemaglobin, 70 per cent (Dare); red cells, 3,470,000. It was now clear that some other form of radical treatment was indicated, due to the patient's general condition. A prostatectomy was decided upon. The suprapubic route was selected, since the resected area could be better examined in this manner. The patient was taken to the hospital, where he was given 500 cubic centimeters of whole blood. The following day, under spinal anesthesia, a suprapubic prostatectomy was performed. The prostate was enucleated without much difficulty, and the hemorrhage at the time was not considered excessive. Hemostasis was accomplished by means of a medium-sized Pilcher bag. On examination of the specimen, the "trough," which had previously been made with the resectoscope, was large enough to admit two fingers. In other words, there was no question that the obstruction had been absolutely removed. Healing at the site of resection was not complete and areas of punctate hemorrhage were discernible. The pathologist's report on the specimen was as before, namely, adenomatous hyperplasia.

The patient's convalescence was uneventful and he was discharged from the hospital on the fourteenth postoperative day with a rapidly closing suprapubic bladder fistula which closed entirely in twenty-two days from the date of operation. He was seen at the office four weeks postoperatively, at which time his urine was clear and showed five to six pus cells per high dry field and no red cells. He has been seen periodically for the past eighteen months and he had no complaints, and has gained several pounds in body weight.

COMMENT

1. This is a case in which a resection was done with a good anatomical, but a poor physiologic result.

2. This patient's bleeding, following resection, could be ascribed to no particular cause. The fact remains, however, that the patient was cured by prostatectomy.

3. The writer has reached no conclusion as to how to foresee or avoid the complication which arose in this case. He has seen too many good results following prostatic resection with the high frequency current, to conclude that the operation is an unsound surgical procedure.

507 F Street.

Foreign Protein in Treatment of Gonococcic Ophthalmia.—Hamilton treated two patients presenting adult gonococcic ophthalmia with injections of cow's milk boiled for four minutes and given intramuscularly into the buttocks on alternate days. Commencing with 10 cubic centimeters, he increased the dose rapidly to 25 cubic centimeters. Of numerous foreign proteins and serums, milk produces the best uniform rise in body temperature. The one risk of milk injections seems to be anaphylaxis. At the first indication of distress, 10 minims (0.6 cc.) of epinephrin should be given hypodermically. Patients in whom milk injections are definitely contraindicated are those who are weak and debilitated, especially marasmatic children, tuberculous patients, persons with kidney disease and women in the last months of pregnancy. The author's patients responded well to treatment. They show that high pyrexia is a definite aid in the treatment of adult gonococcic ophthalmia. The pyrexia must be continuous and maintained until all discharge ceases. If the patient becomes immune to one foreign protein, another must be substituted. The use of a 2 per cent silver nitrate solution, however useful in other forms of ophthalmia, is strongly contraindicated in the treatment of gonorrheal ophthalmia even in the later stages. In all cases of gonorrheal ophthalmia with corneal ulceration, the whole cornea should be covered with a conjunctival flap at once. A purse-string suture carefully inserted is the only sure method of keeping the conjunctival flap in place for the desired period, namely, ten days or longer. The author concludes that massive doses of foreign protein, given intramuscularly or intravenously on alternate days so that the body temperature is left swinging at a high level, are specific for gonococcic conjunctivitis in adults.—*Medical Journal of Australia.*

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

CARCINOMA OF THE CERVIX OF THE UTERUS

ETIOLOGY OF CANCER OF THE CERVIX

Orville N. Meland, M. D. (1407 South Hope Street, Los Angeles).—Ordinarily, when we think of cancer of the cervix, we immediately attribute this condition to neglected lacerations following childbirth or the acrid discharges secondary to low-grade infections. There is much to commend this viewpoint, as has been brought out by Bailey and Schiller, but many women who have lacerated cervices and chronic inflammations never develop cancer. However, in a very fine piece of work Bailey[1] shows that in the chronic inflammatory lesions of the cervix, and in the so-called erosions, there is a dual process going on, a chronic destructive inflammation and an abortive healing attempt with epitheliation. In some patients, when the reparative process is interfered with, a condition is finally arrived at where the epithelial cell is no longer a healthy organism with function, but one in which the growth element has become such a dominant factor that a new growth results. The balance between growth and repair has become lost and a cancer is born. Such an evolutional process has been traced in serial sections of cervical erosions where he says, "The ultimate sequel to erosion is malignancy." Bell, on the other hand, makes the pertinent remark: "Erosions and lacerations of the cervix furnish a theoretical point of origin for cancer, but the earliest cancers we have studied did not arise from these lesions. We have no certain knowledge of the inciting causes of cancer of the cervix."

However, there are other factors which we must consider. Thus Martzloff[2] maintains that the majority of instances of cervical cancer are associated with one or more pregnancies. What influence the pregnancy actually has is hard to say, but most observers think that the healed laceration following childbirth, miscarriage or operative manipulation may supply the primordium for cancer of the cervix. Sir George Buchanan, a member of the Cancer Commission of the League of Nations, says: "Although cancer of the cervix is mainly a disease of women who have borne children, the work of the Commission confirmed the conclusion of Peller and Deelman that it is *the fact of a pregnancy,* and not the number of deliveries, which is the predisposing factor in the production of cancer of the uterus."

The influence of pregnancy in this condition is strengthened by some observations made by Hofbauer,[3] who has found hyperplastic changes in the cervical epithelium in a notable proportion of pregnant uteri. Furthermore, there are ingrowths of the epithelium with hyperchromatism of the cells. He says: "The generation during pregnancy of multilayered cells, by proliferating cervical epithelium, might be properly designated as epithelial hyperplasia, exhibiting certain features of 'metaplasia.' " This hyperplasia persists as long as forty days postpartum, possibly longer. The cells in this proliferative process resemble morphologically the epithelial neoplasia of Cheatle, as seen in chronic cystic mastitis. The same process has been seen in the gall-bladder by King, and in polyps of the colon by Schmieden and Ewing. To quote Hofbauer again: "Reasoning by anology, however, with similar phenomena in the gall-bladder, the breast and the alimentary tract on record, I venture to suggest that the production during pregnancy of solid tongues of proliferating epithelial cells in discrete places of the cervical mucosa, whatever their fate, may represent an important link in the chain of causative factors for the later development of malignancy; leaving unanswered the question of the interrelation of such epithelial variations and sequential chronic inflammatory conditions."

How are we to explain the presence of cancer of the cervix in the virgin? This group represents 5 per cent of those seen. Here we have no pregnancy, nor any laceration incident to manipulation. Are we to attribute it to the "Congenital Type of Erosion" of Reel? Irritation alone is not the cause of cancer. How many women with complete or partial uterine prolapse develop cervical cancer? If the cervix is irritated it should be under these conditions. Turning to the realm of speculative possibilities, the virgin who develops cancer must belong to a susceptible class. She has inherited a definite tendency toward that disease, and when an irritant is present, whether it be a "congenital erosion" or a hormonal derangement, neoplasia takes place.

Welsh,[4] in speaking of heredity, says: "In regard to the direct influence of heredity on the development of cancer, there is evidence that mice and men are linked in a fraternity. Both mice and men may show strains that are relatively susceptible, and strains that are relatively immune to cancer. Fortunate indeed are they who belong to the latter class. And to those who belong to the former class, that is, to those who have a family history of cancer, I would say that fore-warned is forearmed. It is one of the prerogatives of intellect to be able to turn what at first appears to be a menace into a weapon of defense against that menace. If we accept the fact that heredity plays a part in the genesis of most cancers, then we should be in a better position to prevent death from cancer, because our attention would be focused upon their early and curable stages when an hereditary predisposition is known to be present, and further, we should concentrate upon prevention in such cases by removing all possible existing causes."

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[1] Bailey, K. V.: An Inquiry into the Basic Cause and Nature of Cervical Cancer, S., G. & O., 50:513, 1930.

[2] Martzloff, K. H.: Lewis' Practice of Surgery, 10:176.

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To summarize then, there is no uniformity of opinion as to the exact etiological factors in carcinoma of the cervix. Neglected lacerations, chronic inflammatory processes termed "erosions," and pregnancies play significant parts, but all may be influenced in some subtle way by that variable factor which we term "heredity."

* * *

SYMPTOMATOLOGY AND DIAGNOSIS OF CERVIX UTERI

George S. Sharp, M. D. (605 Professional Building, Pasadena).—The diagnosis of early cancer of the cervix is made most frequently during a routine complete physical examination for complaints that are not always related to uterine dysfunction. The earliest diagnoses are not accidental, but these symptomless growths may be found during thorough routine or periodic health examinations. For lack of definite initial symptomatology early cancer diagnosis may at first glance be credited to lucky stumbling, but the lucky clinician stumbles on forethought.

It is strange that a disease which was well known to the ancients should be so insidious in its etiology that we still are entirely ignorant as to its mode of onset in early symptomatology and diagnosis. Early internal cancers are only recognized after the exhaustion of all our inherent and applied art, while external cancers are discovered for the most part by the patient and confirmed by the physician. Our duty to the patient seeking medical attention should be a complete physical examination, regardless of apparent complaints.

The symptomatology of cancer of the cervix may be found in all textbooks, but the early cases do not have symptoms referable to the cervix. The normal functions of the uterus are not interrupted. The early growth many times in the form of a nodule is symptomless. A watery discharge or leukorrhea is not typical, but should always be thoroughly investigated. Intermenstral spotting, bleeding at intercourse or sudden hemorrhage are in most instances due to a growth which has ulcerated. Bleeding means the cancer is in direct contact with the blood stream and lymphatics; the possibility of metastases is great and is assured in 70 per cent of patients. Cervical growths may, therefore, be discovered before irregular bleeding, if suspected and examined.

The complaint common to all patients with an early growth is easy fatigue, poor appetite and possibly a little loss of weight. Our duty to the patient is neglected if these general symptoms are not followed up by a complete physical examination. More commonly these general complaints are tolerated by the patient for several months until local symptoms present.

Cancer rarely begins as cancer, but it is usually preceded by a persistent benign condition or chronic irritation. Recognition of these precancerous lesions such as leukoplakia, chronic endocervicitis and lacerations are of the utmost value to the patient, and proper treatment at that time will save the patient a probable malignant growth later. For example, a thorough cauterization for chronic cervicitis is a fair assurance of risk from subsequent malignancy in that area. Likewise cervical polyps should be removed because of their irritation to the mucous membrane in the canal.

The gross appearance of early cancer of the cervix is not typical. In fact, it is difficult to distinguish chronic cystic or interstitial cervicitis with erosion from early infiltrating epidermoid cancer with ulceration. Erosions are more frequently encountered in younger women from irritating discharges. In women over forty, erosions are less frequent, and when observed they should be regarded seriously, for many are actually early cancer. In this older group cystic formation and an increase in connective tissue production are observed more often than erosions. Moreover, mucus forms a large part of the discharge from these benign lesions, and this mucoid discharge is rarely present with cancer.

The appearance of an erosion should immediately arouse suspicion and be regarded as malignant until proven otherwise. If the area is touched with a swab, or slight bleeding is observed during the examination, this is still further evidence for definite pathological confirmation. The Schiller Test may be tried for further confirmatory evidence of biopsy. Lugol's solution is applied to the cervix and the normal squamous epithelium absorbs the iodin uniformly, while the ulcerated area remains unchanged. The test is not specific for new growth, and in the case of eversion with columnar epithelium presenting, the stain is not absorbed by this type of epithelium in the canal. The test is of no value for adenocarcinoma, although this type of growth is relatively rare, occurring only in 2 per cent of cervical growths. In other words, this test is not conclusive and is not dependable for a final diagnosis.

Little aid is obtained from palpation or bimanual examination in the early cancer. The typical induration of infiltrating growth may be readily found later during the progress of the disease, and the degree of extension into the broad ligaments may be determined. This evidence is necessary to clarify the clinical group; but the early diagnosis should be made before a degree of fixation is present.

The typical, or more commonly observed cancer of the cervix, is larger, nodular and more irregular than normal. There is usually an asymmetry with the location of the external os. This irregularity is due to tumor growth with invasion of surrounding normal tissues, and to a lesser extent the connective tissue and inflammatory reaction around the growth. Ulceration, if present, is usually near the external os, and in the early case may even be demonstrated in an old laceration. Occasionally the growth may present in the cervical canal, and this demonstration may be helped by an applicator to incite bleeding, or to outline an irregularity of the wall. Rarely cancer may develop on the outer or lateral surface of the cervix near one of the fornices. Also more commonly than otherwise, the cervix is drawn slightly to one side, which suggests a degree of metastasis.

Early clinical diagnosis of cancer is largely a speculative one, but all important in inciting the physician to perform a biopsy. Microscopic study is the only basis for our final decision, and it should correspond with the clinical impression. In other words a negative pathological report of malignancy may mean that the biopsy specimen was taken from the inflammatory, reactionary zone around the growth, and the true structure missed; or the specimen may be taken from the top of a papillary type of growth, and a report of papilloma given when the infiltrating basal portion was missed. Even in the actual growth itself, the microscopic finding may vary as to the degree of malignancy.

The site and method of biopsy is obvious for the ulcerated growth. Any type of biopsy forceps is adequate and the specimen may be taken from the denuded area without anesthesia. The suspicious erosion requires a forceps with a cutting tip or, even better, a triangular wedge of tissue removed with a bipolar cutting current. The nonulcerated nodule also should be treated in a similar manner. This procedure is best performed in the hospital where an immediate frozen section may be done. If malignant, radium may be applied immediately without loss of valuable time.

The dangers of biopsy are no longer as apparent as they were once considered by many. The possibility of growth stimulation, dissemination of disease or infection are not found to be risks, and the data obtained is invaluable.

In conclusion, we are confronted with a disease without early local symptomatology, and our only weapons are: (1) Thorough, complete physical examinations on all patients; (2) yearly periodic follow-up examinations; (3) microscopic study of all suspicious erosions and interstitial cervical growths, and (4) adequate treatment of precancerous lesions before malignant degeneration.

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IRRADIATION IN THE TREATMENT OF CANCER OF THE CERVIX UTERI

Robert S. Stone, M. D. (University of California Hospital, San Francisco).—Cancer of the uterine cervix is such a common disease that almost every general practitioner is sure to have many cases in the course of his practice. The diagnosis of the condition has already been considered in this symposium. Once the diagnosis has been established, the physician in charge must advise the method of treatment. The skill and equipment necessary for proper therapy have become so exacting and elaborate that it usually must be carried out by specialists.

Since the discovery of the roentgen rays and radium, it has been found that cancer of the cervix is sufficiently sensitive to irradiation to make this method the treatment of choice. In a few carefully selected cases very radical surgery offers the best chance of a permanent cure, if performed by a skillful gynecologist. For the great majority of cases, however, the only treatment offering good results is irradiation.

The type of irradiation to be used is the next problem. It has been said very frequently that the cervix offers an ideal situation for the use of radium, because it is so accessible. This statement reveals a lack of knowledge, both of the physics of radiation and of the extent of the growth in most cases. The strength of gamma rays from radium decreases very rapidly as the distance from the source increases. Thus, if radium is placed in the uterine cavity and the cervical canal, it can deliver a dose sufficient to destroy cancer cells on and near the surface. If, however, a similar dose is to be delivered to cells that have spread to the adjoining tissues, there will be destruction of normal, as well as pathological cells close to the source of radiation. The deep effect of the radium can be increased by using heavy filtration, and by surrounding the applicator with rubber or other substances which increase the distance between the source of radiation and the first layers of tissue. The size of the canal, however, precludes the use of any great distance.

The effect on the cervix can also be increased by cross-firing with radium placed in the vaginal fornices. The effect of this cross-firing of gamma rays can be obtained only in the cervix itself, since the radium cannot be placed out in the broad ligament.

Fortunately, a cross-firing effect in the adjacent tissues can be attained by the external application of x-rays. The intensity of the radiation reaching the tissues diminishes from the surface downward. Hence, by a judicious combination of x-rays from the outside and radium from the inside, a fairly uniform radiation of the entire pelvis can be attained.

In using radium or radon, many factors have to be considered. First, let us think of the filters to be used. Filters are those substances which are placed between the source of the radiation and the tissue to be irradiated. They are used to stop the rays that penetrate poorly. The gamma rays are the only ones desired, and even the long gamma rays are not useful. The shorter the rays are, the more deeply they penetrate. Heavy metals, such as lead, platinum, or gold, are the best because a thinner layer cuts out the rays that are not wanted. Different radium therapists use different metals of varying thickness. It is not possible, therefore, to state any ideal dogmatically. As the gamma rays go through the metal, they create secondary radiations which have long wavelengths and, therefore, no penetrating power.

These must be stopped by a lighter metal such as aluminum, or by rubber.

The second factor to be considered is the fact that the greater the distance between the primary source of the radiation and the tissue, the greater is the depth of effective penetration of the rays. Hence, wherever possible, some light material such as cork should be used to separate the radium from the surface.

The third factor is the distribution of the radium over the surface. It is this element of the problem, as much as any other, that makes every case different from every other. To achieve the best result, the radium should be well distributed over the surface. If the growth is large and the cervical canal patent, the radium can be widely distributed, and more will be required to cover the whole growth. Hence the distribution of the dosage between the body of the uterus, the cervical canal, and the vaginal surfaces is very important.

In stating the dosage of radium, it is far from sufficient to say that a given number of milligram or millicurrie hours has been or is to be used. The intensity of the radiation reaching each part of the tumor is the important factor. This is best stated by giving the total strength of the source of radiation, plus the filter, plus the distance, plus the distribution.

An additional factor of great importance is the rate of irradiation. The radiation must act over a certain period of time. It has been found that a massive dose completed in a short time is not so effective as the same total dosage given over a long period. The optimum distribution in time is not yet known. Some radiologists give three treatments of some hours each, at weekly intervals; others give the dosage by continuous application for a week or more; there are, in addition, many intermediate techniques.

Surgeons discovered, many years ago, that it was useless to remove cancer by a narrow resection of the original growth. A wide excision, including the usual channels of spread of the growth, is needed. Radium applied to the cervix is equivalent to a local excision. X-rays of the most penetrating type available must be used, in addition, to cover the usual channels of spread—the parametrium and the lymphatics of the pelvis. The penetrating power of x-rays is determined by the voltage of the electric current used to produce them. If the voltage is below 150 kilovolts, the x-rays will have such a low penetrating power that the radiation reaching the depth of the pelvis will be useless. Two hundred kilovolt x-rays, if used properly, can radiate the pelvis fairly effectively. On theoretical grounds, higher voltages should give more thorough irradiation. For this reason the experiments now being tried with voltages up to 900 kilovolts are being watched with great interest.

The intensity of the x-rays decreases rapidly as greater depths are reached, and to increase the depth dosage, cross-firing is used. X-rays are directed from the front, from the back and from both sides. Some roentgenologists use two portals of entry from the front and two from the back. The number of portals are varied according to the size of the patients' pelves.

As with radium, the filtration plays an important part in cutting out those rays of low penetrating power which will affect the skin, but not the deeper tissues. Copper, zinc and tin of varying thicknesses are used, with aluminum to cut out the secondary rays. With the higher voltages, lead is being used as a filter. Distance is also of importance in x-ray therapy, and no distance less than 50 centimeters should be used.

The factor of time is also of great significance. In the early days of x-ray therapy, massive doses were given in a short time. This method was found to have a profound influence on the patient, but comparatively little on the tumor. The tendency at present is to prolong the treatment by fractionating it, giving a little every day. Initially the prolongation of treatments arose from an attempt to radiate each cell as it came to its mitotic state, at which time it is most sensitive. Another reason of equal importance lies in the fact that the normal tissues recover from the effect of radiation more rapidly than the tumor cells. Hence, a larger dose can be delivered to the tumor with less damage to the normal tissues by spacing the dosage. The ideal duration of the course of irradiation has not yet been found, but it is generally accepted that the time for a course of therapy should not be less than two weeks. Many roentgenologists prolong the treatments for three or four weeks, and some continue them for two months or more. As a rule, the treatments are given daily.

The limiting factor in applying x-ray is the ability of the skin, and of the mucous membrane of the bladder and intestines, to withstand the dosage. With the prolonged (protracted) fractionated method, the skin can be reddened, browned or even blistered, and yet return to its normal state. With such a dose the mucous membranes become so inflamed as to produce cystitis and colitis. These changes cause very disagreeable symptoms which can be controlled only partially by medication.

A further problem in connection with radiation is the order in which the treatments should be given. The x-ray therapy should block the lymphatic channels and shrink the tumor. Hence, it is easier and safer to apply the radium after the x-ray treatments have been completed.

While the radiation must be given by specially trained physicians, the general practitioner often has to observe the patient during the course of treatments and should know what to expect. X-ray treatments to the pelvis usually produce the so-called x-ray sickness. The mildest symptom is a loss of appetite. The next is nausea, which may progress to vomiting. The patient generally feels more or less fatigued and somewhat melancholy. There is no known specific treatment for these symptoms. The patient must be encouraged to eat such foods as appeal to her, to keep up her strength.

Between the second and third weeks of treatment, the patient usually complains of diarrhea and often of pain on urination. These symptoms usually last about one week, and can be controlled partially by tincture of opium or paregoric.

From three to four weeks after starting treatments, the skin over the treated areas becomes sore. It should become red or reddish-brown, and any hair in the area affected by treatment should fall out. There may be some blistering of the skin. It is very important that no irritating medication or hot applications should be used on the areas of treatment. The roentgenologist usually prescribes some soothing powder, such as zinc sterate. The serious reaction lasts about a week, but a tanning may persist for some months.

The treatments should not be interrupted. A course of treatments is planned, with the definite purpose in view of getting a certain total dose given in a given period of time, by applying definite fractions of the total each day. Any interruption changes the whole course. It is better to hospitalize the patient, if necessary, to prevent such interruption.

It must always be borne in mind that it is the first course of treatments that cures or fails to cure the patient. Subsequent treatments are palliative. The tumor never reacts as favorably as it does during the first course. The first treatments must be as radical as the most radical surgery, and the patient needs to be encouraged frequently. It is altogether too common a practice for referring physicians to discontinue treatments temporarily without consulting the radiation therapist, and thereby jeopardize the patient's chances of a cure.

From the foregoing discussion it is obvious that the application of radium and x-ray involves much more than the giving of so many milligram hours of radium and so many units of x-ray. Anyone who is to apply these penetrating agents must have special training in the physics and biophysics involved, and must have a keen clinical training in the reaction of tumors. X-rays and radium must be regarded as physical agents more penetrating than the scalpel.

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SURGICAL TREATMENT OF CARCINOMA OF THE UTERINE CERVIX

Verne C. Hunt, M. D. (555 Roosevelt Building, Los Angeles).—Even though the diagnosis of carcinoma of the uterine cervix has been discussed previously, it is essential in the consideration of therapeutic measures that one should state his ideas regarding diagnostic methods, their reliability, and their usefulness in finally determining the type of treatment suitable in any particular case.

At the outset, it may be stated that in extensive malignant lesions of the cervix, the diagnosis is readily suggested by palpation and upon inspection; the biopsy is usually of value as corroborative evidence. In the early cases in which the clinical and objective manifestations are insufficient, microscopic examination of tissue provides the only accurate method of making a positive diagnosis. The iodin reaction of the cervical epithelium, known as the Schiller test, has in recent years served as a distinct aid in the early diagnosis of carcinoma of the uterine cervix. The test is dependent upon the normal glycogen content of the cells of the normal surface epithelium of the cervix, which it stains a deep mahogany brown. Any abnormality in the surface epithelium prevents the absorption of iodin, which definitely demarcates the normal epithelium from the abnormal. In the early application of this test it was interpreted, and accepted by many, as specific for the recognition of early malignant disease. Early malignant disease is usually definitely demarcated from the normal cervical epithelium after the application of Lugol's solution; but lack of absorption of the iodin does not necessarily indicate that malignant disease is present. It is now well known that in leukoplakia of the cervix, superficial ulceration, traumatic disquamation of surface epithelium and other abnormalities, absorption of iodin fails to occur and should not lead one abruptly to the conclusion that early malignant disease exists. The chief value of the Schiller test is the demarcation of normal from abnormal epithelium as an aid in the determination of the extensiveness of the disease as it involves the cervix, and to indicate the areas from which tissue shall be removed for biopsy. In the last analysis the diagnosis of early carcinoma of the uterine cervix is dependent upon competent microscopic examination of tissue representative of the lesion.

Prophylactic Surgery.—Surgical treatment of carcinoma of the cervix may be considered as prophylactic or preventive, and direct. The frequency with which malignant disease of the uterus is encountered makes it incumbent upon the physician to institute thorough investigation of the female pelvis, when clinical manifestations deviate from the normal. While carcinoma of the uterine cervix may occur at any adult age, it is worthy of emphasis that the age of highest incidence is during the fifth and sixth decades of life, coincident with menopausal manifestations; that it occurs most frequently in women who have borne children, and that certain endocervical lesions frequently antedate the development of carcinoma. The surgical repair of cervical lacerations, the thorough surgical eradication of benign ulcerating lesions of the cervix and all other endocervical abnormalities materially reduce the likelihood of carcinoma developing in this situation. Likewise the performance of vaginal hysterectomy for uterine prolapsus, with or without cervical ulceration at or about or beyond age of menopause, instead of the conservative intra-abdominal fixation or suspension types of procedures, is worthy of due consideration as regards prophylactic surgical procedures.

Considerable question exists, and much controversy has arisen regarding the frequency with which carcinoma develops in the remaining cervix following subtotal, abdominal hysterectomy for benign disease in the uterus. It is noteworthy that carcinoma of the remaining cervix actually does occur, but the exact incidence is unknown. Polak has estimated the frequency of such occurrence at 2 per cent, which is higher than the usual estimate. At any rate, the incidence is sufficiently great to raise the question of total versus subtotal hysterectomy for benign disease of the uterus. A number of reports to the contrary notwithstanding, little question exists that in general the risk and mortality rate of total abdominal hysterectomy exceeds that of subtotal hysterectomy. In the hands of the experienced surgeon this difference is not great. Nevertheless, when indications exist for abdominal hysterectomy for benign disease, the condition of the cervix should determine whether the procedure shall be a subtotal hysterectomy or a total operation with complete removal of the cervix. Objection to total abdominal hysterectomy is sustained in some quarters by the possibility that prolapsus of the vagina and cystocele develop, but such sequelae are readily obviated through the proper fixation of the round and broad ligaments to the vaginal vault. It is needless to say that, in the presence of a normal cervix in a nulliparous woman, the subtotal procedure is entirely justifiable. Also, in the presence of obesity or other associated conditions, in which the simplest type of procedure is advisable, the subtotal hysterectomy may be the most practical procedure for both the patient and the surgeon. Whenever a subtotal abdominal hysterectomy is resorted to in the presence of ancient laceration of the cervix, or other cervical precursors of cancer, vaginal removal of the remaining cervix is incumbent upon the surgeon to the best interests of the patient. The variability of risk and mortality rate between subtotal and total abdominal hysterectomy is so dependent upon many factors that surgical judgment must be relied upon to determine the selection of cases for one or the other procedure. Unfortunately, when carcinoma develops in the remaining cervix after subtotal hysterectomy, the diagnosis usually is not made until the disease is far advanced; and although treatment may prolong life, cure is rarely attained. As a practical consideration, it may be stated that in few women in whom the indications are clear for hysterectomy for benign pelvic disease, is the cervix normal or in good condition and worthy of preservation with impunity. When one gives due consideration to the limited curability of carcinoma of the cervix by surgical procedures or physical agents, the prophylactic removal of the cervix by total hysterectomy for benign uterine disease must strongly become commended as the procedure of choice over subtotal hysterectomy in the absence of contraindications. Likewise, when one dwells upon the potentialities of the remaining cervix, one becomes impressed with the necessity of the surgeon mastering a technique for total abdominal hysterectomy, which entails a low mortality rate comparable to that of the subtotal operation when properly performed, even though infection of the cervix exists.

Direct Surgery.—Carcinoma of the uterine cervix is usually far advanced when opportunity is afforded the institution of treatment, and the consequent curability of the disease is not high. Dr. Frederick V. Emmert of St. Louis recently presented rather startling reasons, obtained through interviews, of a group of patients for the delay in the institution of treatment. One-half of the patients claimed that they had been under the care of a physician for periods of time ranging from two months to one and one-half years, during which time the signs of early malignancy were not recognized. One-fourth of the patients interviewed confessed that their delay in treatment had been due entirely to their own negligence. All of these patients attributed their symptoms to the change of life. One-eighth of the patients consulted a physician early in their illness and were carefully examined. Definite treatment was recommended, but they were afraid to undergo it. In the remaining eighth of the patients immediate recognition of the disease was followed by immediate treatment, and in this group cure was attained in nearly 50 per cent of the cases.

From the surgical standpoint, the operability of carcinoma of the cervix is low, and at best does not exceed 20 to 25 per cent of the cases. Operability is relative only, and is dependent upon the personal equation in the interpretation of operability. Certainly operability has decreased in recent years through more closely drawing the lines between those cases that are truly inoperable, those that are questionably operable, and those that are operable in the strictest sense. Previous to the era of physical agents in the treatment of malignant disease, many patients were operated upon who today would be considered questionably operable or inoperable. With the facilities available for the competent application and utilization of the physical agents, the questionably operable carcinoma cases should seldom, if ever, be operated upon. The doubt about the questionably operable case is based upon extension beyond the cervix. Through a more or less definitely agreed upon classification, the truly operable carcinoma of the cervix is one in which the disease is confined as nearly as can be determined to the cervical canal or vaginal face of the cervix, and this type of lesion is the only one in which surgical treatment may be justifiably considered. There are many who in their hyperenthusiasm are only too ready to treat all patients with carcinoma of the cervix by nonsurgical methods or the physical agents. The utilization of the physical agents has accomplished much in palliation and cure of carcinoma in this situation, but it is worthy of emphasis that an operable lesion is best treated by total hysterectomy. Comparison of results achieved through surgical procedures, and those obtained by the use of the physical agents in the treatment of carcinoma in this situation, are not made readily with accuracy. It is worthy of note that the results of treatment by the physical agents, even though reckoned on many inoperable and questionably operable cases, have been altered by strictly operable cases, as the results of the surgical procedures have been altered by questionably operable and subsequently proven inoperable cases.

It is not within the province here to engage in the discussion of the relative merits of surgical procedures and physical agents in the treatment of carcinoma of the cervix. There is little to suggest that the physical agents may justly supersede or replace surgical procedures in the treatment of early or strictly operable carcinoma of the cervix. One should not be unmindful of associated pathology in the uterine fundus and in the adnexa to complicate the problem of treatment by one method or the other, and alter the indications for one or the other method. The selection of cases for surgical treatment is a matter in which the personal equation, not only in terms of interpretation of operability, but the skill with which the surgical procedure may be executed, is intimately concerned. The problem of treatment not always readily resolves itself into the choice of one method or another, but may advantageously resolve itself into the use of all methods. It may be stated, however, that most cases immediately divide themselves into the operable and inoperable groups. The inoperable cases seldom become surgical, for seldom are surgical procedures advantageously employed after the application of physical agents. However, the physical agents at times may be advantageously employed following the surgical procedure.

Various surgical procedures have in the past been instituted for the eradication of carcinoma of the cervix, a discussion of which is not here in order. Today direct surgery of carcinoma of the cervix is limited entirely to the cases in which the lesion is confined to the cervical canal or the vaginal face of the cervix, without demonstrable extension to the vaginal mucous membrane, without palpable invasion of the structures outside the uterus, and without demonstrable fixation of the pelvic organs, or evidence of remote metastases. To this strictly operable type of lesion the operation of total abdominal hysterectomy in the high lying uterus or vaginal hysterectomy, in the presence of pelvic relaxation, may be advantageously instituted with no greater risk, in competent hands, than the same procedures for benign disease of the uterus, and afford excellent prospects of cure.

In the last analysis, the operability of carcinoma of the cervix in the future is in the hands of the man engaged in bedside medicine; and to him the patient must look for early diagnosis and finally the proper recommendations in treatment.

Traumatism of Skull and Brain.—Jentzer discusses the effect of operation in cranial traumatisms based on the records of 837 cases from 1914 to 1934. There were 366 patients with cerebral contusion who recovered under nonoperative treatment. Seven died in spite of conservative treatment and two in spite of operative intervention. Two hundred and thirty-three patients with cranial fracture recovered under conservative treatment, thirty-nine with fracture recovered after operation, thirty-five died in spite of operation, and seventy-three died without operation. There were eighty-two cases of fracture which could not be used for various reasons. From the study of these cases he concludes that the anamnesis can never be sufficiently complete to dictate the therapeutic procedure. In more than 50 per cent of the fractures, some of a severe character, such as slow pulse and hyperpyrexia, recovery occurred without intervention. Indications for operation are given by the succession of physiopathologic phenomena rather than by any one set of signs. In the severe cases, immediate operation is indicated. This is based on the enormous anatomic lesions observed in 117 necropsies. Such lesions could not be expected to heal without surgical help. In some, microscopic traumatisms develop toward neurologic sclerosis. The changes in the choroid plexus, the different effects of hemorrhage, the sympathetic disorders (congestion, edema, anemia) and the silent lesions might all be helped by early trephining. The author concludes that death is not produced by lesions of the hemispheres alone, of the protuberance, of the peduncle or of the bulb and by hemorrhages, but that cerebral edema, pulmonary lesions and emboli are common fatal complications.—*Journal de Chirurgie.*

Law to Check Abuse of Public Hospital Service.—One of the members of the French chamber of deputies has introduced a bill to prevent further admissions to the public (free) hospitals of those who are able to pay. During the last few years the public hospitals have been overcrowded. Many persons whose means permitted them to enter private hospitals have been admitted because they wished to be under the care of medical men who are chosen on a competitive basis and who represent the leaders of the profession. The public hospital authorities have admitted many who should have been cared for elsewhere because the hospital budgets were greatly reduced. The medical profession has protested in vain thus far; hence this law will prevent abuse of the privilege to enter free hospitals. A committee will be appointed in each department of France. A representative of the administration and two physicians will constitute the personnel of the committee. Only emergency cases and persons who are proved to be indigent or temporarily without resources will be admitted if this bill becomes a law. After investigation of the individual applicant, a card, valid for six months, will be issued to those who are eligible to enter the free hospitals. The deputy in presenting the bill stated that "everything possible must be done to lighten the burden of a profession that has suffered so intensely and yet has remained faithful to its ideal of helping suffering mankind."—*Journal of the American Medical Association.*

Irritants in Adhesive Plaster.—Schwartz and Peck tested twenty-one subjects showing various degrees of adhesive plaster reaction with eleven ingredients of adhesive plaster. One of these developed a generalized reaction, so that individual tests could not be evaluated. Seven of the remaining twenty were negative to the patch tests. Of the thirteen remaining, eight showed positive reactions to wood rosin extracted from the stumps of pine trees; eight to so-called Burgundy pitch; six to I-rosin; five to South American Para rubber, which had been milled, washed and dried; two to beeswax; two to olibanum, and one each to hydrous wool fat, orris root and gutta siac. All the subjects who showed marked reactions at the first removal of the adhesive tape with continued intensification at the second inspection showed positive reactions to one or more of the rosins, and 50 per cent were sensitive to rubber. Seven of the subjects tested who showed a negative or only a slight erythema at the first inspection, but who later developed delayed reactions, were sensitive to one or more of the rosins, and two were sensitive to rubber. The tests seemed to indicate that there are two types of reactions to adhesive tape: one is purely chemical and due to resultant maceration and mechanical trauma from the application and the removal of the plaster, and the other is due to hypersensitivity to one or more of the ingredients of the plaster. The results indicate that the chief irritants in the adhesive plasters that were tested are the rosins, in which can be included the so-called Burgundy pitch and the smoke-cured wild rubber, of which South American Para is an example. An attempt was made to determine whether complexion or previous diseases of the skin or an allergic diathesis had a predisposing effect on sensitivity to adhesive plaster. All the subjects patch tested with adhesive plaster were questioned as to these facts. No such correlation could be established.—*United States Public Health Reports.*

CALIFORNIA MEDICAL ASSOCIATION

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SEASON'S GREETINGS FROM PRESIDENT ROBERT A. PEERS

December 25, 1666.

"I to Church, where our Parson Mills made a good sermon. Then home and dined well on some good ribbs of beef roasted and mince pies; only my wife, brother, and Barker and plenty of good wine of my owne, and my heart full of true joy." Samuel Pepys.

* * *

January 1, 1665.

"Lay long in bed, having been busy late last night, then up and to my office, where upon ordering my accounts and papers with respect to my understanding my last year's gains and expense, which I found very great." Samuel Pepys.

* * *

Life, in many respects, has changed little since Pepys wrote his famous diary in the latter half of the seventeenth century. Christmas is still a family day and when one dines with one's family on such good fare as is obtainable and, with the Christmas spirit, one's heart is or should be "full of true joy." New Year's is a day of reckoning, checking up on the old year and preparing for the new. Filled with the spirit of the holiday season, we send greetings to our relatives and friends. As president of the California Medical Association, I should like, more than anything else, to be able personally to meet each member of the California Medical Association and, in person, exchange the season's greetings. This being impossible, I take the opportunity to express the hope that each member of the California Medical Association will on Christmas Day have a "heart full of true joy" and that the new year will not only bring pleasure in retrospect over the happenings of the past twelve months, but will be also the commencement of fifty-two weeks of increased happiness and prosperity.

A Merry Christmas and a Happy New Year!

Robert A. Peers.

STATE AND COUNTY SOCIETY ACTIVITIES

GREETINGS

The officers, Council, and headquarters' personnel extend to members, readers, and advertisers cordial greetings and good wishes for a joyful holiday season.

"May you have friends who love you for what you are, or are not, and keep burning before your wandering steps the kindly light of hope. Though age and infirmity overtake you and you come not in sight of the castle of your dreams, may you still be thankful for life, for time's memories that are good and sweet; and may the evening twilight find you gentle still."

* * *

POINTING ARROWS

"Thirty-five" is rapidly drawing to a close. As the December curtain descends, it is appropriate to pause and note the direction of the "pointing arrows" on the highway of years. Turn back for the moment—Osler, Halstead, Kelly—Bull, Jacobi, Carsten, McGraw, Vaughan! Sell, Billings, Murphy, Dudley, Truedeau, Carman!—names only, a few out of the vista of yester-years, yet withal they with their contemporaries by their professional work and research turned the arrows that lead us on the present highway of scientific medicine, research and practice.

With faces now confidently turned to the future it must be recognized that the responsibility of building the highway for coming years rests upon and with the students and teachers of today. It is theirs to place and space the pointing arrows to guide an advancing profession.

The task is by no means an easy one, with many remaining hills and canyons to overcome and span. Cancer, degenerative diseases, sinus infection, enlarging the scope of preventive medicine, pneumonia, the central nervous system, endocrinology, cardio-renal diseases—these are the hills and canyons through which an advancing highway must be built and along which pointing arrows are to be placed.

The time has not yet arrived to make a declaration similar to those made a century ago and three decades ago—"that there is nothing more to discover in medicine"; it is quite apparent that that millenial day will never arrive. In consequence, the men of medicine of today and the students who will be the men of the tomorrow years will continue to find wide fields in which to pursue research, studies and experiments that will eventuate in placing pointing arrows.

So indeed must we work if the problems of medicine are to be solved. The temple of medicine will never be completed, nor can we hope that labor will give way to rest. No matter how high a summit we climb, higher heights will rise before us ever more.

With opportunity before us, with a realization that we are a part of the organizing force of the universe, shall we not accept the challenge and press on to place our pointing arrows in such a manner that when our day is done those who are to follow us will be able to place confidence in our guiding signs. So for the new year, with these ideals and purposes this thought is proffered:

"To live in the temper and spirit of a learner, open-minded, unwarped in judgment, free, as far as light permits, from delusions, eager to explore and inquire, quick to give up a confuted idea and so gain a higher outlook, striving steadily to improve and to grow—these are watchwords of a person who is striving to advance his intellectual life."

* * *

REFERENDUM ON QUALIFYING CERTIFICATE (BASIC SCIENCE) HEALTH INSURANCE LEGISLATION

The Council at its meeting on November 2 directed the State Secretary to secure a referendum on health insurance legislation and also on qualifying certificate (basic science) legislation.

The following questions have been submitted to members by a postcard with return card attached:

> "Do you favor that the Council shall instruct the Association's special committee to secure a Qualifying Certificate Law by initiative at the 1936 November election and to that end expend for signatures, postage, and clerical expenses approximately $35,000 of the Association's reserve funds."

> "In order that the Council and officers may be guided, the Council of the California Medical Association desires to obtain the individual opinions of the licensed physicians of California upon the matter of possible legislation establishing either:

"1. Compulsory health insurance which would include certain population groups in an insurance plan administered by a commission probably appointed by the Governor and subject to control by the legislature.

"2. Voluntary health insurance carried on by private lay insurance companies for profit under necessary legislative control by the legislature.

"3. Voluntary health insurance carried on by some form of organization of the licensed physicians of California also under legislative control.

"The Council of the California Medical Association urgently requests that you record your opinion by answering the questions upon the attached postcard. Please mail at once. Please send in a letter any additional comments you may desire to make."

These will have been received by members during the month of November. It is hoped that every member has considered the questions propounded in this referendum and that he has returned the reply post card. If you have not done so, please do so at once, inasmuch as the Council is very desirous of securing the expressions and desires of the majority of our members.

* * *

CONFERENCE OF COUNTY SECRETARIES

The Council, at its meeting on November 2, authorized the State Secretary to arrange for a conference of secretaries of all county societies of the California Medical Association to be held at San Francisco on Saturday, January 18, 1936.

The purpose of this conference is to enable state officers, councilors, and chairmen of important committees to present to secretaries detailed information relative to the activities and policies of the California Medical Association.

During the conference several hours will be devoted to round-table problems of secretaries in order that they may be enlightened as to the duties and responsibilities of their office.

The Council has authorized the payment of the actual traveling expenses of each county secretary to this conference. A detailed announcement will be subsequently mailed to each county secretary. It is the urgent desire of the Council that every secretary attend this conference.

* * *

MEMBERSHIP VALUES

Have you ever evaluated your membership in your county and state medical organization? When you do you will find it to be a valued possession. Pause from time to time to note these membership dividends that accrue to you:

1. County meetings with its papers, clinical cases, discussions, and contact with your fellow members.
2. Postgraduate courses and conferences affording opportunity to remain conversant with scientific progress.
3. Annual state meetings.
4. Monthly issues of California and Western Medicine that bring you instructive articles, case reports, editorials dealing with scientific questions and economic problems, and reports on state and local activities.
5. Representation in all those state affairs that are of personal concern.
6. Participation in those benefits that result from committee activities. All too often members do not adequately appreciate that which accrues to the individual member by reason of the services of these committees.
7. Listing in medical directories that convey to the public that you have been judged by your peers as having fulfilled the educational and legal requirements demanded of licensed physicians and surgeons. These directories are consulted very frequently by commercial and lay persons who give preference to those who are recorded as members of their county medical society.
8. Membership enables you to meet a qualification that is required by many special organizations for membership affiliation as well as for appointment to certain positions and offices.
9. A qualification that makes you eligible for appointment on the staffs of many hospitals and institutions.
10. Reference of cases from members in other counties and other states. Personal experiences confirms this statement.
11. Entree to national meetings, clinics, and hospitals.
12. Development of improved public relations.
13. Defense of private forms of practice against attempted inroads by corporate forms of practice.
14. Central office with informative and advisory service.

These summarizations fall far short of being a complete appraisal of the value of membership. Neither do they reflect all the benefits. They do, however, indicate the manner by which each member, through personal effort, may develop and increase his dividends from affiliation.

There must be a certain unjustified bias in the eligible nonmember who refrains or refuses to become and remain affiliated with the organization of his profession. In addition, that individual is benefiting, in a certain degree, by reason of organized activity for which he makes no personal contribution. He forfeits self-respect when he remains content to continue in his isolated position in the outer fringes, while his fellows underwrite the benefits he enjoys.

* * *

GRADUATE MEDICINE

There are thirty medical schools in the United States that make available graduate study opportunities. Some of them conduct their courses along the lines of their undergraduate courses, while a certain number afford excellent courses with personal opportunities.

Graduates in medicine have not embraced graduate study in very large numbers. Records reveal that less than four per cent of the practicing physicians attend these graduate courses. Reasons for nonattendance are:

1. Expense of travel, tuition, and increased living expense for himself and family.
2. Loathe to leave his practice.
3. Lack of self-interest.
4. Satisfied with medical meetings.

It is well recognized that for a physician to remain abreast of medical practice it is incumbent that the physician spend some time each year in graduate study. To overcome the mentioned reasons for nonattendance and to stimulate graduate study the State Medical Association undertakes to provide a series of graduate conferences, at stated intervals, in convenient centers of the State. Six-day courses are given during the year in the four medical colleges. Plans are now being developed for a six-day intensive course in the Los Angeles County Hospital and in the San Francisco County Hospital. Members of the faculty of the two schools in Los Angeles and San Francisco will have joint representation on the daily program. Due announcement will be made in order that members may arrange to attend. A very small registration fee to pay actual expenses will be charged.

In addition, the medical colleges will arrange special courses in their own institutions.

By the first of the year there will be little, if any, excuse for California physicians not to engage in graduate work each year. From this activity the physician and his patient will reap benefit.

* * *

HISTORICAL RECORDS

Records relating to the early days of medicine in California are being sought for the Association archives. Members are requested to send their reminiscences of early days in California and any records, papers or books that they may have in their files. Minutes of medical societies are particularly desired.

* * *

REVISED STATE NARCOTIC ACT

The 1935 legislature amended the State Narcotic Act. Members are urged to write to the Chief, Division of Narcotic Enforcement, 156 State Building, San Francisco, for a copy of the revised law.

The following is a partial summary of the act:

Restricting possession of narcotics.

Information on prescriptions.

Keeping of records.

Purchase of wholesale quantities, and reporting purchases.

Self-administration.

Prescribing for addicts.
Records of treatment.
Record of narcotics.
Loss of license to practice.

All the responsibilities that rest with physicians are covered in these sections. It is quite imperative that every physician familiarize himself with these requirements of the law and observe them to the letter. The keeping of records and the filing of required reports within specified dates will prevent becoming entangled in this law. No physician can afford to be careless in the dispensing or prescribing narcotics. There is but one course and that is to observe the provisions of this law.

* * *

COUNTY INTEREST

During the middle of October, President Peers and four officers of the Association visited county societies in the northern part of the State. Meetings were held at Marysville, Chico, Crescent City, and Eureka. At these meetings members were present from Butte, Lassen, Plumas, Modoc, Tehama, Shasta, Siskiyou, Del Norte, Trinity, and Humboldt counties.

Discussion was had of the objectives of the State Association, of local problems, and by questions and answers first-hand information was imparted.

It was extremely gratifying to perceive the earnest interest reflected by the members in this part of the State. Each meeting was well attended. Some of the members traveled 268 miles on their journey to the meeting place and back to their homes. What is more interesting is that they cover that distance each month for their society meetings. It is impossible to adequately applaud and commend such loyalty. All praise is due to these men of medicine. Their example might be called to the attention of our metropolitan members who complain about going a few miles, and even a few blocks, to their county society meeting.

An attest can be recorded that these members in these rural and mountain regions are rendering high-grade and competent medical care to their communities. Cases seen in their hospitals and in homes and their hospital records revealed approved modern practices, skill, and ingenuity.

These visits and contacts afforded genuine pleasure and created a definite conclusion that the members of these societies contribute their part in upholding the high professional and organizational standards of California's medical profession.

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ITEMS OF PASSING INTEREST

The Texas State Medical Association has established permanent headquarters in Fort Worth by the purchase of a commodious residence. From description it is undoubtedly suitable for the needs of their executive offices. The total cost was $10,000.

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A registration of over 2,000 was reported for the College of Surgeons' meeting in San Francisco, October 28 to November 2. Dr. Eugene H. Pool of New York City was elected president for 1937. Dr. Emile Holman of San Francisco was named first vice-president, and Dr. George E. Wilson of Toronto, second vice-president.

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The Pacific Coast Obstetrical and Gynecological Society elected Dr. Clarence A. DePuy as president at its meeting in Los Angeles.

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The Committee on County Hospitals, created at the Yosemite meeting, is making a thorough study of these tax-supported hospitals. County societies are urged to respond promptly to requests for information in order that a comprehensive report can be presented at Coronado.

* * *

Membership in the medical society of the State of California assures you desirable legal counsel. Send for an application blank to obtain this service during the coming year.

The minutes of the November Council meeting are printed in this issue. Important matters were considered upon which you should be informed.

* * *

WORTH PONDERING UPON

Faith that literally can move mountains is in disaccord with human experiences. Nothing aside from earthquakes has proved itself competent for this undertaking.

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Confusion in the use of the terms "faith" and "belief" is almost universal. Simple "faith" is closely related to human happiness. The falsely so-called "belief" is, on the contrary, often arrogant and impels to bellicosity and intolerance.

* * *

Of many commonly used words it may be said that they represent no actual human experience. "Consistency," for example, was never in completeness attained in a human life. It is rarely exemplified in conduct or in the man-made laws governing behavior and determining judicial procedure.

COUNCIL MINUTES*

Minutes of the Two Hundred and Thirty-Ninth Meeting of the Council of the California Medical Association

The following minutes were approved by the Council by mail vote.

A special meeting of the Council was held in Room 309, Sir Francis Drake Hotel, San Francisco, Saturday, November 2, 1935.

1. **Call to Order.**—The meeting was called to order by Chairman T. Henshaw Kelly, with the following members present: President Robert A. Peers, President-elect Edward M. Pallette, Speaker W. W. Roblee, Chairman T. Henshaw Kelly; Councilors Karl L. Schaupp, Carl Howson, Henry J. Ullmann, A. E. Anderson, A. L. Phillips, O. D. Hamlin, Henry S. Rogers, C. L. Emmons, M. R. Gibbons, W. H. Kiger, C. E. Schoff; Chairman of Public Relations C. A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Councilors C. O. Tanner and H. H. Wilson.

2. **Minutes of the Council.**—It was moved by President-elect Pallette, seconded by Chairman of Public Relations Dukes, that the minutes of the 236th, 237th, and 238th meetings of the Council, as published, be approved. Carried.

3. **Financial Statements.**—Financial statement for the month of September, 1935, was read by the secretary and on motion of Councilor Ullmann, seconded by Chairman of Public Relations Dukes, was approved.

The secretary was instructed to send a copy of the monthly financial statements to all councilors.

The secretary reported that $35,129.26 had been expended to date by the Committee of Five on the Economic Survey and that there was an additional outstanding liability of approximately $250 for actuarial expense; that the Committee of Six had expended $4,736.19.)

After discussion of the most suitable type of investment for the reserve funds of the Association, on motion of Councilor Kiger, seconded by Councilor Ullmann, a special committee was appointed, consisting of the president, the president-elect, the chairman of the Council, and the secretary, to investigate investment securities suitable for investing the reserve funds and report to the Council at its next meeting.

4. **Retired Membership.**—Upon presentation of membership data and request from the Los Angeles County Medical Association, it was moved by Speaker Roblee, seconded by President Peers, that Francis Rogers, Los Angeles, be granted retired membership in the California Medical Association. Carried.

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* The minutes of the two hundred and thirty-eighth meeting of the Council of the California Medical Association were printed in the October, 1935, issue of CALIFORNIA AND WESTERN MEDICINE, page 302.

5. **Committee of Five.**—The secretary reported that a typewritten copy of the economists report on the medical survey had been received.

It was moved by President-elect Pallette, seconded by Councilor Ullmann, that the secretary be instructed to secure a copyright of this report and that a copyright be also secured on any future amendments to the report. Carried.

It was moved by Chairman of Public Relations Dukes, seconded by Councilor Schoff, that any further activity or work connected with the rewriting, reëditing or any modification or study of the medical survey report shall be without expense to the California Medical Association and that no further expense be incurred without the approval of the Council, and that all individuals, including the Committee of Five, be so informed. Carried.

6. **County Society Conference.**—President Peers and Secretary Warnshuis outlined the desirability of a county officers' conference, and the secretary presented a tentative program for such meeting.

It was moved by President Peers, seconded by President-elect Pallette, that a conference of county society officers be held on January 18, 1936, and that the California Medical Association pay the expense of the secretary of each county society or his selected representative. Carried.

It was moved by President-elect Pallette, seconded by Councilor Anderson, that the county officers' conference be held in San Francisco. Carried.

7. **Annual Session Program.**—In accordance with the action recorded by the Scientific Committee, the secretary reported that invitations had been extended to Evarts Graham of St. Louis, J. C. Litzenberger of Minnesota, Franklin Ebaugh of Denver, and the president of the American Medical Association to appear as invited guests of the California Medical Association at the Coronado meeting, and that the Committee on Scientific Work requested that the Council appoint a Committee on Scientific Exhibits.

It was moved by Chairman of Public Relations Committee Dukes, seconded by Councilor Gibbons, that the recommendation of the Scientific Committee regarding invited guests be approved and that the chairman of the Council be authorized to appoint a Committee on Scientific Exhibits. Carried.

8. **Assembly Bill 246—Hospital Insurance.**—Dr. John H. Graves and Mr. Monaco were granted the privilege of the floor by the Council. Doctor Graves read a copy of a letter from Doctor Johnson addressed to Doctor Schaupp and stated that he appeared as a representative of a meeting held at St. Mary's Hospital and that he had been requested to appear before the Council and endeavor to secure its support of the hospital insurance plan that was being inaugurated by St. Luke's Hospital and other hospitals in the city and county of San Francisco.

Mr. Monaco then explained the plan in detail.

The attention of the Council was called to the constitutional provisions and the rules adopted by the Council that all problems and plans originating in a county should first be presented to the county society.

It was moved by the Chairman of Public Relations Committee Dukes, seconded by Councilor Ullmann, that the recommendation of Councilor Schaupp that the whole matter be referred back to the San Francisco County Medical Society and that it come through the regular channels from the county society through the Department of Public Relations to the Council, be adopted. Carried.

9. **Poll of Physicians on Health Insurance.**—Doctors Nathan Hale, Orrin Cook and William Van Den Berg of Sacramento appeared before the Council to present the request of the Sacramento Society that a poll of all licensed physicians and surgeons in California be taken on the question of health insurance.

It was moved by Councilor Schoff, seconded by Councilor Anderson, that the Council send out a questionnaire on health insurance in the form of a return post card before December 1. Carried.

The questionnaire was then submitted and on motion of Peers, seconded by Ullmann, and carried, the following form of questionnaire was approved.

1. Shall the California Medical Association endorse any legislative change in the present system of medical practice? *Yes. No.*

(If your answer to No. 1 is "No" do not answer No. 2 and No. 3.)

2. Are you in favor of compulsory health insurance? *Yes. No.*

3. Are you in favor of voluntary health insurance? *Yes. No.*

(If your answer to No. 3 is "Yes," answer (*a*), (*b*) and (*c*).

(*a*) Voluntary health insurance under a plan carried on by the State of California? *Yes. No.*

(*b*) Voluntary health insurance carried on by lay companies under legislative control? *Yes. No.*

(*c*) Voluntary health insurance carried on by some form of organization of licensed physicians of California, created by legislation? *Yes. No.*

4. Are you a member of the California Medical Association? *Yes. No.*

10. **Hospital Insurance.**—Dr. Daniel Crosby, representative of the Alameda County Medical Society on the proposed hospital insurance plan in Alameda, stated that it was the desire of Alameda County to have the sanction and approval of the Council for the proposed hospital insurance plan in Alameda County.

As chairman of the Committee on Hospitals, Dispensaries, and Clinics, Doctor Crosby then presented the following recommendations to the Council on behalf of Dr. C. A. Dukes, chairman of the Committee on Public Relations:

"Pursuant to Council action, the Committee on Public Relations and the Committee on Hospitals, Dispensaries and Clinics, at a joint meeting held October 13, 1935, considered A. B. 246. The following recommendations are made to the Council:

"1. The California Medical Association reaffirms its interest and its desire to coöperate with all other agencies looking forward toward the provision of hospital services for the people on the periodical payment plan.

"2. The California Medical Association believes that it is the duty of this organization and an obligation to assume leadership in this movement and make available and proffer advisory counsel to all agencies that propose to supply hospitalization facilities by means of an insurance plan as outlined and provided for in Assembly Bill A. B. 246 that was passed by the 1935 session of the Legislature and become a law on September 15, 1935.

"3. For the purpose of preventing untoward conditions and practices, the California Medical Association formulates the following governing policies that must be accepted and observed in every non-profit corporation writing hospital insurance under Assembly Bill A. B. 246 in order that such corporation may secure the approval and endorsement of the California Medical Association.

Governing Principles

"1. Hospital services that are provided by non-profit corporations shall not include medical services or medical care as these have been defined by official action of the House of Delegates of the American Medical Association.

"2. In all such propositions or plans that seek to provide hospital care, the individual shall be accorded a free choice of entering any approved hospital.

"3. The conditions or terms of any policy that provides for hospitalization shall not create an interference with the patient-physician relationship and shall give to the individual the right of free choice of a licensed physician and surgeon.

"Recommendation No. 1. Your committee recommends that the Council delegate to the Department of Public Relations the responsibility of approving the non-profit corporation policies that are written for the purpose of providing hospital insurance.

"Recommendation No. 2. That the Council delegate to the Committee on Public Relations the authority to act in an advisory capacity to all hospitals, non-profit corporations and county medical societies that purpose to issue hospital insurance policies.

C. A. DUKES,
DANIEL CROSBY."

It was moved by President-elect Pallette, seconded by Councilor Ullmann, that the report of the chairman of the Committee on Public Relations be adopted. Carried.

After discussion of the practice of pathology and radiology, on motion of Ullmann, seconded by Kress, the matter was referred to the Committee on Public Relations for the formulation of a resolution and report to the Council at its next meeting. Carried.

It was moved by Councilor Hamlin, seconded by Councilor Gibbons, that the matter of approval of contracts to subscribers, solicitation, etc., be laid on the table for future consideration. Carried.

Rufus Rorem, Ph. D., at the invitation of the Council, explained the growth of hospital insurance in the United States.

It was moved by Editor Kress, seconded by Councilor Gibbons, that the Council extend to Doctor Rorem a vote of thanks. Carried.

11. **Conference of State Secretaries.**—Secretary Warnshuis stated that he was planning to attend the Conference of State Secretaries in Chicago, if the Council approved, from November 5 to 19, 1935.

It was moved by President Peers, seconded by President-elect Pallette, that the secretary's attendance at the State Secretaries' Conference in Chicago be authorized. Carried.

12. **Public Health Institute.**—A letter from Glenn Meyers, president of the Public Health League of California was read and the attitude of the Public Relations Committee explained by the secretary.

It was moved by President-elect Pallette, seconded by Councilor Ullmann, that the action of the Public Relations Committee be approved. Carried.

13. **Reference Library.**—Discussion was had of the desirability of establishing a reference library in the Association office for use in connection with the press publicity and other activities being carried on by the Department of Public Relations. The possibility of establishing such a library by retaining review books and exchanges in the State Association office was discussed and the matter was referred for further consideration at the next meeting of the Council. Councilor Schaupp was authorized to take the matter up with the San Francisco County Society.

14. **Council Meeting.**—On motion duly made, seconded and carried, the date of the next Council meeting was set as January 18 and 19, 1936, at San Francisco.

15. **Basic Science Act.**—Full discussion was had of the proposed basic science or qualifying certificate act. Doctor Kress explained the procedure to be followed in securing an initiative and estimated an approximate expense of $35,000.

A vote of the members of the Council was taken on the question of "Shall a referendum vote of the members of the Association be taken to determine by initiative vote of the people of California at the 1936 November election whether or not a basic science act be enacted."

The following members, constituting three-fourths of the members of the Council, being in favor of such referendum vote, the secretary was instructed to proceed with the taking of such vote of the members of the Association: Doctors Peers, Pallette, Roblee, Kelly, Howson, Ullmann, Anderson, Phillips, Schaupp, Hamlin, Rogers, Emmons, Dukes, Kiger, Schoff, and Gibbons.

The form of referendum vote as determined by the Council is as follows:

> "Do you favor that the Council shall instruct the Association's Special Committee to secure a Qualifying Certificate Law by initiative at the 1936 November election and to that end expend for signatures, postage and clerical expenses approximately $35,000 of the Association's reserve funds?"

On motion duly made, seconded and carried, the chairman of the Special Committee, Editor Kress; Councilor Gibbons, Doctor Kelly, chairman of the Council, and the secretary were authorized to conduct the referendum vote and the time fixed for closing the ballot was two weeks after date of mailing.

16. **Clerical Expense.**—It was moved by Councilor Phillips, seconded by President Peers, that the secretary be authorized to secure additional clerical help for the conducting of the poll of physicians on health insurance. Carried.

17. **Goodall Versus Brite.**—The general counsel reported on the present status of the case of Goodall versus Brite. It was suggested that the general counsel be present at the hearing of the case.

18. **Francis Versus Nelson.**—The general counsel reported that the opposing side had requested additional time for preparing brief.

19. **Pacific Employees' Insurance Company.**—The general counsel reported on the status of this case stating that the Superior Judge had decided against the Attorney-General.

General Counsel Peart reported that another decision that corporations cannot practice medicine had been rendered in the case of the Pacific Health Corporation, making a total of approximately five such decisions in California.

20. **Committee on Tax-Supported Hospitals.**—Councilor Anderson reported on the progress of the Committee on Tax-Supported Hospitals and Medical Care, stating that questionnaires had been sent out from which data would be compiled, and that the committee intended to interview individuals who were intimately acquainted with the problem.

It was the sense of the Council that an editorial on the question should be published in the JOURNAL.

It was moved by Councilor Schaupp, seconded by Councilor Ullmann, that expense, not exceeding the $500 appropriation already made, incurred by the Committee on Tax-Supported Hospitals and Medical Care be paid on approval of proper itemized expense accounts by the Auditing Committee. Carried.

21. **Expenditure of Funds.**—On motion of Councilor Schaupp, seconded by Councilor Ullmann, the following resolution was adopted:

> *Resolved*, That for the purpose of establishing better control of expenditures of the Association funds, no officer, or committee, of the California Medical Association shall incur any financial obligation or indebtedness until such expenditure has been submitted to the Association's secretary, who in turn shall secure the approval of the Auditing Committee and the Association's signed requisition authorizing expenditure is then sent to the officer or committee, and be it further
>
> *Resolved*, That the Association secretary be instructed to send this resolution to all officers and committees of the Association.

22. **Advisory Counsel.**—The chairman presented correspondence from Professor Canning, who was the economic adviser to the Committee of Six on Health Insurance legislation, and on motion of Councilor Schaupp, seconded by Councilor Gibbons, the Auditing Committee was authorized to approve the payment of the balance of $1,050 to Professor Canning. Carried.

23. **Councilor Luncheons.**—It was moved by Councilor Ullmann, seconded by Speaker Roblee, that the California Medical Association hereafter pay the expense of the luncheon for councilors on the days of Council meetings. Carried.

24. **District of Columbia.**—Reply to the District of Columbia Medical Society communication was referred to the next meeting of the Council.

25. **Adjournment.**—There being no further business, the meeting adjourned.

F. C. WARNSHUIS, *Secretary*.
T. HENSHAW KELLY, *Chairman*.

COMPONENT COUNTY MEDICAL SOCIETIES

ORANGE COUNTY

The November meeting of the Orange County Medical Association, held in the chapel of the Orange County Hospital, was called to order by President Hawes.

Dr. Llewellyn Wilson, surgical resident of the Orange County Hospital, was unanimously elected to membership.

Doctor Farrage reported for the Disaster Committee in a detailed manner. This Disaster Committee consists of stations and depots throughout the county where the men are to report in case of major disaster. The work originated in the Santa Ana Post of the American Legion, and was confined only to Santa Ana. The present set-up combines the Legion, Red Cross, and County Medical Association, and the scope is greatly extended. The report was accepted and his committee discharged.

Dr. A. B. Cooke of Los Angeles gave the scientific paper, and spoke on *Thyroidectomy as Contemplated by* *the Patient.* His paper showed thorough understanding of thyroid disease as well as the patient's viewpoint. Considerable discussion followed. Adjournment followed.

Waldo S. Wehrly, *Secretary.*

PLACER COUNTY

The Placer County Medical Society held its annual meeting in the Freeman Hotel, Auburn, Saturday evening, November 9. The meeting was called to order at 8:25 o'clock by President Louis E. Jones. There were present the following members and visitor:

Members—Doctors P. D. Barnes, J. A. Russell, C. C. Briner, W. M. Miller, Lucas W. Empey, R. H. Eveleth, Robert A. Peers, J. Gordon Mackay, Ray C. Atkinson, D. M. Kindopp, W. A. Vinks, Max Dunievitz, C. E. Lewis, and Vernon W. Padgett.

Visitor—Dr. C. E. Schoff, councilor for the Eighth District.

The president then stated this being the annual meeting that election of officers was in order.

The following officers were unanimously elected: President, Louis E. Jones of Roseville; vice-president, C. E. Lewis of Auburn; secretary-treasurer, Robert A. Peers of Colfax. Delegate to 1936 convention, Lucas W. Empey of Roseville; alternate, Mildred E. Thoren of Weimar.

The secretary-treasurer then read the secretary's report and the treasurer's report, which were approved and adopted.

A resolution on the death of the late Dr. Eugene H. Bryan was presented by a committee composed of Doctors Peers, Dunievitz, and P. D. Barnes. The resolution was adopted and the secretary directed to send a copy to Doctor Bryan's widow.

The secretary then read correspondence from State Secretary Warnshuis, consisting of twelve communications. Action was taken on the following:

Dr. Louis E. Jones of Roseville, Dr. C. E. Lewis of Auburn, and Dr. W. A. Vinks of Lincoln were appointed a committee to contact the libraries of Auburn, Roseville, and Lincoln, as requested in State Secretary Warnshuis' letter.

Dr. C. E. Lewis and Dr. Ray C. Atkinson were appointed a committee to coöperate with Doctor Packard, chairman of the Committee on Tax-Supported Hospitals, and fill out the questionnaire furnished by the committee.

The president then called upon Dr. C. E. Schoff, district councilor, who, among other things, discussed the following subjects:

Questionnaire on health insurance, which is shortly to be presented to the members of the California Medical Association.

Medical Publications, Inc.

Assembly Bill 246.

Public Health Institutes.

W. B. Mayo Foundation.

Packard Hospital Committee.

Postgraduate Conferences.

Questionnaire on Basic Science Act.

At the close of his address an unanimous vote of thanks was extended Doctor Schoff by the members of the Society.

The meeting then adjourned for refreshments.

Robert A. Peers, *Secretary.*

SACRAMENTO COUNTY

A regular meeting of the Sacramento Society for Medical Improvement was called to order by the president, Orrin S. Cook, the evening of October 15 at the Elks Temple.

Forty-eight members and guests were present.

The paper of the evening was delivered by Dr. Albert Petit, associate professor of gynecology at Stanford University Medical School. The subject was *Vaginal Hysterectomy, with Some Fallacies in Regard to Repair of the Perineal Floor.* Doctor Petit illustrated his paper by the use of motion pictures. The subject created a great deal of comment and discussion. Those discussing the paper were: Doctors Ankele, Kanner, Harris, Burden, Frank MacDonald, Foster, and Norris Jones.

The application for membership presented by Doctor Almada was read for the second time and his name voted upon. Doctor Almada was unanimously elected to membership in the Sacramento Society for Medical Improvement.

Dr. Dave Dozier announced the Northern District medical meeting, which was to be held on November 2.

Frank Warne Lee, *Secretary.*

SAN BERNARDINO COUNTY

A meeting of the San Bernardino County Medical Society was held at the San Bernardino County Charity Hospital on November 5.

The meeting was called to order by the president at 8 p. m.

The following applications for membership were voted on and approved: Doctors Marvin K. Paup of Needles, H. P. Nottage of Ontario, Justin W. Neighbor of Arrowhead Springs, and Robert G. Williamson of Ontario.

Mr. H. F. Zbinden, representing the Sparkletts Water Company, extended a group invitation to the Society to attend a football game in Los Angeles, following a trip through the company plant.

After some discussion it was moved and seconded that the invitation for the date of December 7 (University of Southern California versus University of Washington game) be accepted.

Dr. C. L. Emmons, district councilor, then spoke briefly on the Basic Science Bill and the proposed vote by mail on the expenditure of funds necessary to sponsor the bill.

He also explained the vote by mail concerning sickness insurance. Members were urged to vote on these questions and mail the cards promptly.

The program of the evening was then given as follows: Mr. Harold P. Thoreson, Director SERA; Report of County Tuberculosis Survey, Dr. E. B. Godfrey and Charles Cree, County Health Unit; *Unusual Manifestations of Disease,* Dr. Verne R. Mason of Los Angeles.

The meeting adjourned at 10:30 p. m.

A. E. Varden, *Secretary.*

SAN JOAQUIN COUNTY

The November meeting of the San Joaquin County Medical Society was held in the Medico-Dental clubrooms, Vice-President T. C. O'Connor presiding.

The scientific session was preceded by the customary supper meeting at the Hotel Wolf, at which eighteen members were present. Interesting papers were presented by Doctor Sheldon on *The Treatment of Cancer by Radium and X-Ray* and Doctor Doughty on *The Diagnosis and Treatment of Amebiasis by the General Practitioner.*

A report was given on the postgraduate study group by Dr. J. P. Hull, who stated that the group was progressing very nicely and that there had been forty-seven members signed up for the course. The following resolution, prepared by Dr. Dewey Powell, was read and ordered spread on the minutes:

> "On October 18, 1935, the members of the San Joaquin County Medical Society were shocked and grieved to learn of the sudden passing of Dr. Ralph G. Cressman. He passed away at the St. Joseph's Hospital from an acute perforating gastric ulcer with profuse hemorrhage.
>
> "Doctor Cressman was graduated from the Bennett Medical College in 1905 and practiced in Oglesby, Illinois, from 1905-1917. From 1917-1919 he was in the Medical Corps of the United States Army. He practiced in Hastings, Nebraska, from 1919-1928; was with the United States Veterans' Bureau from 1928-1933.
>
> "He came to Stockton in the fall of 1933. During his two years' residence in this city he had taken an active part in the professional and civic life of the community. He was extremely active in the work of the American Legion and the Veterans of Foreign Wars, particularly in their boys' work activities. He gave much personal time to the Boy Scout troups. He was active in the church life of the First Congregational Church and in the service club work of the city.
>
> "His sudden passing at the age of fifty-five removes a valued member of the profession and an esteemed citizen of the community at a time when his talents and experience made him most useful.

> "The members of the Society desire to express their high regard for Doctor Cressman, and to convey to his widow and children their most sincere regret in their great loss. Therefore, I move you, Mr. President, that this committee report be spread in full upon the Minutes of this Society and that a copy be sent to the widow of our departed member."

The following nominations were placed in order for officers for the year 1936: President, T. C. O'Connor; first vice-president, John Blinn; second vice-president, A. L. Van Meter; secretary-treasurer, G. H. Rohrbacher. Delegates to State Association convention, Dewey Powell and C. A. Broaddus; alternates, T. C. O'Connor and M. H. Smyth. Directors, Doctors Dewey Powell, Harry Kaplan, R. T. McGurk, H. J. Bollinger, George Sanderson, P. Gallegos, and F. Doughty.

Dr. Dewey Powell moved that the formality of sending out ballots and printed forms be dispensed with so as to save the cost of mailing, as there was no opposition to any candidate. This was seconded by Doctor Gallegos, and the motion carried.

The paper of the evening was presented by Dr. Clifford D. Sweet of Oakland, who talked on *Abdominal Pain in Children*. This was a very able presentation, and was discussed by Doctors Richardson, Hull, English, C. V. Thompson, Collis, Blackmun, Doughty, and O'Connor.

Irving Neumiller, local attorney, addressed the Society *On the Value of the Community Chest*.

There being no further business to be brought before the Society, the meeting was declared adjourned at 10:15 o'clock and refreshments were served.

G. H. Rohrbacher, *Secretary*.

SONOMA COUNTY

The Sonoma Sounty Medical Society held its regular meeting on November 16 in the Clover Inn, Cloverdale, Dr. F. O. Butler presiding. Thirty-four guests were present, including two from San Francisco, eleven from Mendocino County, and all enjoyed a sumptuous turkey dinner before proceeding with the business of the evening.

Dr. Z. E. Bolin, pathologist of San Francisco, was then introduced and he gave a highly instructive discourse upon the necessity and benefits of postmortem examinations in all cases where a question might arise as to the cause of death. Doctor Bolin believes that it would be for the benefit of humanity in general if all deaths were followed by a careful postmortem. Doctor Bolin was asked many questions, which he readily and definitely answered. All present were highly gratified with the program.

Regular routine business was transacted, committees reported on their particular activities, and a general good time was enjoyed by all present.

W. C. Shipley, *Secretary*.

VENTURA COUNTY

The regular monthly meeting of the Ventura County Medical Society was held August 13 in the County Clinic Building.

Members present were: Doctors Strong, Drace, Hendricks, S. Clark, Welch, and Morrison. Guests were: Doctors Ryan and Ditto from the County Hospital and Mr. Teague of Santa Paula.

The State Secretary's monthly letter was read, and also the letter dealing with the formation of an emergency medical corps for the Fire-Fighting Patrol.

Since a quorum was not present no business was transacted.

Mr. Teague then projected several reels of film, showing "Modern Methods of Anesthesia," which were sent to the Society by courtesy of the Winthrop Chemical Company.

* * *

The October meeting of the Ventura County Medical Society was held on Tuesday the 8th at the Pierpont Inn, Ventura.

There were twenty members and four guests present. Guests were: Doctors Anderson of Los Angeles, Allen of Ventura, Neilson of Oxnard, and Nelson of Fillmore.

Following dinner the meeting was called to order by Acting President Shore. Dr. William Nance Anderson of the University of Southern California was introduced and gave an excellent paper on *The Physical Diagnosis of the Heart*.

Report of Committee for Revision of By-Laws, Dr. C. Smolt, chairman: "The revised by-laws will be ready for approval by the members of the Society at the next meeting."

Communications from the State Secretary's office in regard to WPA, Assembly Bill 246, libraries, and the Public Health Institute were read. Also one from the Public Health League offering to give a report on legislation.

Only two of the members present had had any definite instruction for the care of WPA cases. Doctor Homer stated that the County Hospital would not admit such cases, as the rates allowable entitled them to care in private hospitals.

No definite action was taken on Assembly Bill 246, as none of those present felt well enough informed of conditions in the county to suggest definite action. Most of the comments seemed to favor the organization of a state plan by the California Medical Association.

Since there is to be no generalized county gatherings and no suitable hall available, Doctor Smolt moved and Doctor Hendricks seconded, that no Public Health Institute be held this year. Motion carried.

In view of the increased turnout of members for this meeting, it was decided to have dinner meetings for the rest of the year. It was suggested that the meetings be held in the program chairman's home town.

A. A. Morrison, *Secretary*.

CHANGES IN MEMBERSHIP

New Members (24)

Alameda County.—Louis E. Martin, J. Scott Quigley.

Lassen-Plumas County.—Garrison A. Frost.

Los Angeles County.—Chester D. Dixon, Harry Flyer, J. Louis Freibrun, R. C. Gilliland, Edward W. Jones, Orren Lloyd-Jones, Earl L. Lupton, Thomas J. Rogers, Earl M. Tarr.

Orange County.—Llewellyn E. Wilson.

San Diego County.—C. N. Allison.

San Francisco County.—Jack Cohn, Rinaldo Giovannetti, John S. Hanten, Marcia S. Hays, William C. Hobdy, Edgar H. Howell, George J. Karfiol, Irving Schwartz, Kahn Uyeyama.

Santa Barbara County.—Johnette G. Dispensa.

Transferred (1)

Clarence Quinan, from San Francisco County to Placer County.

In Memoriam

Cressman, Ralph Gates. Died at Stockton, October 18, 1935, age 55. Graduate of Bennett College of Eclectic Medicine and Surgery, Chicago, 1905. Licensed in California in 1933. Doctor Cressman was a member of the San Joaquin County Medical Society, the California Medical Association, and the American Medical Association.

✠

Kiefer, Hugo Albert. Died at Los Angeles, October 26, 1935, age 65. Graduate of the University of Pennsylvania School of Medicine, 1897, and licensed in California the same year. Doctor Kiefer was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✠

Parsons, James Jerome. Died at Monrovia, October 18, 1935, age 51. Graduate of Syracuse University College of Medicine, 1913. Licensed in California in 1925.

Doctor Parsons was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✢

Schroeder, Leo Adelmo. Died at Los Angeles October 29, 1935, age 55. Graduate of the University of Southern California School of Medicine, Los Angeles, 1907, and licensed in California the same year. Doctor Schroeder was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✢

Silliman, John Calvin. Died at Palo Alto, October 27, 1935, age 57. Graduate of Columbia University College of Physicians and Surgeons, New York, 1904. Licensed in California in 1915. Doctor Silliman was a member of the Santa Clara County Medical Society, the California Medical Association, and the American Medical Association.

✢

Weaver, Archibald Carlton. Died at Los Angeles, October 25, 1935, age 49. Graduate of Western Reserve University School of Medicine, Cleveland, 1911. Licensed in California in 1923. Doctor Weaver was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

OBITUARY

Adolph H. Nahman

1877-1935

Dr. Adolph H. Nahman, age fifty-eight, passed away on September 21, 1935. He received his degree of Doctor of Medicine in 1909 from the Northwestern University Medical School, Chicago, Illinois, and was licensed in the same year. After graduation he came to San Francisco, interned at Southern Pacific Hospital, and early became associated with Mount Zion Hospital, where he attained the position as senior associate of the medical department and chief of the out-patient department. He was a fellow of the American Medical Association, a member of the California Medical Association and the American College of Physicians.

A great doctor has passed. A kindly, pleasant, cheerful soul who knew no hours, no creeds, no caste when the sick called. He gave of his remarkable ability and rich store of knowledge to poor and wealthy alike. No home was too lowly, no patient too trying for him to extend a sympathetic hand.

Doctor Nahman truly typified the family physician. He entered the homes of his patients as a friend and adviser. He thoroughly knew and understood his people and their peculiarities. He personally supervised and attended upon every technical procedure done upon his patients.

To nurses, hospital personnel and physicians who knew him he was unanimously "their doctor." As an exponent of the sadly neglected art, bedside medicine, he had no equal. His personal and detailed close observation, combined with comforting and rational therapy based on an alert understanding of every advance in modern medicine, instilled confidence. He spent his life in study and work and attained a perfection in clinical medicine which is rarely reached. Despite the heavy load of a tremendous general medical practice which was city-wide, he considered his daily hours in the free clinic of the Mount Zion Hospital of prime importance. Remarkable were the detailed accurate hand-written clinical records which reflected the inexhaustible energy and studious attitude of this family doctor.

Doctor Nahman's interests were not exclusively confined to medicine. His devotion to his family was a prominent feature of his life. He loved music, and his hobbies were photography and gardening. He traveled widely and was much interested in general human affairs.

To those who knew him his memory will ever endure. "And his work continueth greater than his knowing."

C. M. A. DEPARTMENT OF PUBLIC RELATIONS†

Home for Aged Physicians

American Medical Association

Dear Doctor Warnshuis:

Your letter of October 5 has just come to hand.

I know of no home that has ever been established for the use of aged and indigent physicians except the Physicians' Home, Incorporated, an institution that was formerly operated in New York State. Dr. Robert T. Morris of New York City was the moving spirit in this enterprise, which, according to my information, suspended operations about three or four years ago. It is my understanding that it became necessary to discontinue the operation of the Physicians' Home, Incorporated, because of a lack of financial support and possibly because it became apparent that physicians who would ordinarily be the beneficiaries of philanthropy of this kind were rather generally opposed to the idea of becoming inmates of an institution. As to how much the latter factor had to do with the discontinuance of the Home, I am not informed, but I recall that I heard from some source that it had something to do with it.

You will not doubt recall that the suggestion was offered to the House of Delegates and to the Board of Trustees of the American Medical Association that the Association should provide and maintain a home for aged and indigent physicians. A committee, under the chairmanship of Doctor Simmons, made a rather exhaustive investigation of the subject and submitted a report to the House of Delegates recommending, in effect, that the suggestions be rejected. This report was approved by the House of Delegates, but a delegate from New York reopened the matter, and another committee, under the chairmanship of Dr. J. Norman Henry, made a study of the situation and brought in a report of an altogether similar nature, which also was approved by the House of Delegates.

Some constituent state medical associations, notably the Medical Society of the State of Pennsylvania, have established benevolence funds, which are used for the purpose of providing aid to aged and indigent physicians and to the dependents of deceased physicians. The fund of the Medical Society of the State of Pennsylvania, as I understand it, is administered by a committee of the Society, which distribute the funds in accordance with the judgment of its own members. The Philadelphia County Medical Society, according to my information, has a similar fund. It is my understanding that these funds are maintained principally by donations rather than by assessments on members.

I recall that when one of the committees appointed on authorization of our House of Delegates was engaged in its studies, one comment frequently received in reply to inquiries addressed to physicians throughout the country was that aged and retired physicians were very generally opposed to becoming inmates of any institution, but wished, rather, to be permitted to remain in the communities where they had been engaged in the practice of medicine. I recall that when I was secretary of a state medical association there were several aged and indigent physicians in the state whose inactive years were made thoroughly comfortable by the use of money donated by their old patients and by fellow physicians. I was intimately acquainted with one or two of the beneficiaries of this philanthropy and knew personally that their last years were not only made comfortable, but that they were made happy.

My own study of the general subject, which was made some years ago, convinced me that the maintenance of a home for aged and indigent physicians is not the answer to the problem.

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† The complete roster of the Committee on Public Relations is printed on page 2 of the front advertising section of each issue. Dr. Charles A. Dukes of Oakland is the chairman, and Dr. F. C. Warnshuis is the secretary. Component county societies and California Medical Association members are invited to present their problems to the committee. All communications should be sent to the director of the department. Dr. F. C. Warnshuis, Room 2004, Four Fifty Sutter Street, San Francisco.

With most cordial good wishes, I am

Very truly yours,
OLIN WEST.

* * *

December Obligations

1. Renew your license to practice by remitting your registration fee. It is $2 for 1936.
2. Renew your auto license. This year it is $3 plus $1.75 per $100 value placed on your car. Property tax is eliminated.
3. Pay your 1936 County and State Association dues. Your county secretary will appreciate your promptness.
4. Renew your membership in the medical society of the State of California. This membership assures you of legal protection at a cost of $10 per year.
5. Write for your hotel reservations for the 1936 annual session in Coronado. Over half of the rooms in Del Coronado Hotel have been reserved.

Start the new year right by attending to these essential details.

* * *

"Public Hospitalization"

RESOLUTIONS OF THE KERN COUNTY FARM BUREAU PUBLISHED OCTOBER 16, 1935

WHEREAS, The rural people of California believe in the principle of public school education; and

WHEREAS, The principle of public hospitalization is just as valuable to our people as the public school system; and

WHEREAS, Kern County and San Joaquin County have operated a general hospital for the benefit of the taxpaying public; and

WHEREAS, Both of these counties are today accepting taxpayers as well as paupers as patients; therefore, be it

Resolved, That we, the Kern County Farm Bureau board of directors, endorse the principle of public hospitalization; and be it further

Resolved, That we ask each county Farm Bureau in California to endorse the principle of public hospitalization and so inform the California Farm Bureau Federation; and be it further

Resolved, That we, the Kern County Farm Bureau, recommend the principle of public hospitalization as used by both San Joaquin and Kern counties.

T. M. MARTIN,
Secretary, Kern County Farm Bureau.

This resolution is of interest in that it is probably the opening statement of a campaign that will conclude with the introduction of legislation in 1937. Sufficient comment has been made upon what has been the policy of the Kern County Hospital. It is also known that an injunction was obtained against this practice in the Kern County Hospital, but this has been suspended pending the outcome of an appeal. Similar proposals have been made in other counties without success. However, each county society should be alert to this situation and watch developments in their counties.

* * *

Library Service

The Lane and Barlow (Los Angeles County Medical Association) Medical Libraries provide members with splendid library reference services. These reference texts are available to every member in any part of the State.

To obtain these reference texts a member should go to the librarian of his local public library and request that the books or journals be sent for under the interlibrary exchange agreement. Material requested will then be sent to your local library. They can be retained for one week. In the same way, references may be secured from the Surgeon-General's library in Washington.

By writing to the Packet Library, American Medical Association, there will be sent to you references, journals, and reprints upon any subject you name. These may be retained for two weeks. A nominal charge of 25 cents, to cover postage, is the only expense.

These library facilities provide reference literature and texts for members desirous of remaining conversant with the latest developments as well as aiding him in research or the writing of papers.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION[†]

MRS. THOMAS J. CLARK ....President
MRS. ELMER BELT......Editor and Chairman of Publicity

County Auxiliary Reports

Alameda County.—The Woman's Auxiliary to the Alameda County Medical Association entertained their husbands at dinner on October 22 at the Claremont Country Club. Each table was beautifully decorated and arranged attractively. There was a splendid response to the invitation, as this has been an annual affair and is an event of outstanding importance in the year. The guests of honor were: Mrs. Thomas J. Clark, our State president; Doctor Clark, Dr. Frank Makinson, president of the County Medical Association; Mrs. Makinson, Dr. Gertrude Moore, secretary of the Alameda County Medical Association; Dr. Walter Dickie, executive secretary of the California Public Health Department, and Mrs. Dickie. A musical program was greatly enjoyed. Gyula Ormay's Hungarian Quartette wore authentic costumes of their native land and used an imported gypsy instrument, the czimbalom, in their playing.

Plans for the regular November meeting on the 15th are well under way. To promote interest and understanding in the sale of Christmas seals the program is concerned with the subject of tuberculosis. Dr. C. Bush will speak on *Tuberculosis, a Disappearing Disease.* Mrs. George Calvin will continue a series of talks given by various members of the Auxiliary on the history of medicine. Her subject will be *The Life of Koch.*

LAURA S. HENRY, *Publicity Chairman.*

* * *

Lassen-Plumas-Modoc Counties.—The Auxiliary to the Lassen-Plumas-Modoc County Medical Society held their final meeting for the year in Susanville on October 12. Mrs. G. R. Fortson and Mrs. G. E. Martin acted as hostesses for the afternoon. After a delicious luncheon, arranged by Mrs. Martin, the members and guests retired to the home of Mrs. Fortson. The meeting was then called to order by the president, Mrs. F. J. Davis, Sr. The Auxiliary was particularly honored in having as guests at this meeting, Mrs. Thomas J. Clark, the State Auxiliary president, and Mrs. Louis Dyke, a member of the Alameda County Auxiliary. A letter from the American Medical Association with plans and suggestions for increasing the circulation of *Hygeia* was read and discussed, and Mrs. C. Burnett was appointed *Hygeia* chairman for our counties by the president. Mrs. Burnett also agreed to act as health chairman in Susanville and to assist the school nurse in putting on health programs at the Parent-Teacher Association meetings.

Miss Peuh, the Susanville nurse, then gave a short and interesting talk on *How the Rural Nurse Meets Health Handicaps in Poor Children Where There Are No Clinics.* She discussed some of the major problems, such as tonsils, teeth, and immunization. Mrs. Thomas J. Clark gave a most interesting talk, discussing the National Handbook of the Auxiliary, *Hygeia*, and Public Relations. Mrs. Dyke of Oakland read the inaugural address of Mrs. Rogers N. Herbert given at the National Auxiliary convention at Atlantic City. At its conclusion the meeting adjourned.

MRS. FRED J. DAVIS, JR., *Secretary.*

[†] As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

Los Angeles County.—"It is our aim to achieve a membership of one thousand," said Mrs. J. D. Barrow, Los Angeles County president, in her introductory remarks at the opening luncheon meeting of the Woman's Auxiliary held on October 22 at the Association building. Mrs. Barrow further outlined the work of the Auxiliary, which includes educational, social and legislative programs, also coöperation with the health programs of the Parent-Teacher Association. Mrs. Paul Quaintance, Health chairman for the tenth district of the Parent-Teacher Association, urged a widespread reading of *Hygeia* as the best way to keep health education before the public.

Dr. Harold D. Barnard, president of the Public Health League, sent as his representative, Dr. L. A. Alesen, who stressed the fact that scientific medicine owes its heritage and traditions to the individualistic efforts and that legislation is trying to rob it of this heritage by insinuating itself into the practice of medicine. He advocated more adequate standards to protect the public from exploitation and the enactment of a basic science law. "Be prepared to talk scientific medicine," was his concluding advice. Dr. Eric Larson reviewed the history of medical licensure, tracing its development from the early days in Rome when medical licenses were issued by the Pope and signed by the emperor, down to 1772, when the state boards of medical examiners were established in the United States. He then compared the educational standards of nonsectarian medicine with those of cultist medicine, and reported the unfavorable findings of the Canadian Commission which recently investigated the schools of osteopathy in the United States.

The Harbor Branch of the Los Angeles County Woman's Auxiliary held their regular monthly meeting in Long Beach on October 26, with Mrs. F. B. Settle, the chairman, presiding. The speaker of the evening was Miss Ann Schwennsen, executive chairman of Family Welfare, who discussed her work in the field of rehabilitation. Mrs. Settle reported ten new members.

Mrs. Harold E. Crowe, *Corresponding Secretary.*

* * *

Orange County.—The Woman's Auxiliary to the Orange County Medical Association met at the Ebell Club House in Santa Ana Tuesday afternoon, November 5, for its annual public relations meeting. Mrs. Newell Moore, chairman of that committee, introduced the numerous guests, the representatives of the various women's organizations throughout the county. The prevention of juvenile delinquency was discussed by two prominent men, from two entirely different angles of the situation. Mr. Kenyon Scudder of the Los Angeles County probation office, described its prevention by the formation and the functioning of coördinating councils which he illustrated by an electrical transcription, "The Butch Baker's Gang." Dr. E. L. Russel of the Orange County Health Department and psychiatrist for the Orange County juvenile court, stressed the facts that over one-third of the juvenile offenders were retarded mentally and that the lower 25 per cent of society, with a large percentage of feeblemindedness, was producing 50 per cent of the next generation. He urged the enactment of laws that would give facilities for adequate eugenic sterilization. An interesting discussion followed.

Mrs. John Ball and her group of hostesses, comprising Besdames E. M. Beasley, Lawrence Cameron, J. I. Clark, Paul Esslinger, B. W. Hardy, G. W. Olson, M. K. Tedstrom, and Lawrence Whittaker, served tea from a table centered with colorful fruits suggestive of the Thanksgiving season. Mrs. Ray C. Green and Mrs. Harry Huffman poured.

Jessie Q. Raitt, *Publicity Chairman.*

* * *

Sacramento County.—The regular meeting of the Woman's Auxiliary to the Sacramento Society for Medical Improvement was held at the home of Mrs. George Briggs on Tuesday evening, October 15, with the president, Mrs. F. N. Scatena presiding. The report of the treasurer that seventy-six members were paid up was accepted. It was moved and passed that $10 be donated to the Community Chest. It was decided that Mrs. Thomas J. Clark, the State president be invited to our December meeting. Mrs. Cress reported from the County Hospital Library Committee that the demand is greatest for adventure and popular science reading materials, and she asked for contributions especially of those types. A letter from the Women's Council was read asking us to join them and have a representative as a member of the council, and it was decided to do so.

The welfare director of the County Hospital called attention to a case there in need of educational help. It was moved that we have a committee to investigate the merits of the case and to plan to assist if possible. A new member, Mrs. Lucas Empey of Roseville, was introduced. Mrs. H. Kanner, accompanied by Mrs. Zue Geery Pease, sang "Beauty's Eyes" by Tosti and "Winter Lullaby" by De Koven. After the musical numbers the bridge tables were arranged, and when the playing was done the hostess, Mrs. George Briggs, assisted by Mesdames H. Hall, A. R. Boscoe, L. Lorenze, H. J. Davis, B. J. Rea, and Louis Jones, served delicious refreshments.

Sarah L. Brendel, *Corresponding Secretary.*

NEVADA STATE MEDICAL ASSOCIATION

R. O. SCHOFIELD, Boulder City.......President
C. E. SECOR, Elko.......President-Elect
HARRY W. SAWYER, Fallon.......First Vice-President
W. H. FROLICH, East Ely.......Second Vice-President
HORACE J. BROWN, Reno.......Secretary-Treasurer and Associate Editor for Nevada

COMPONENT COUNTY MEDICAL SOCIETIES

CLARK COUNTY

The Clark County Medical Society held its first meeting of the fall on November 12 at the Sal Sagev Hotel, President R. D. Balcom presiding. The following members were present: Doctors Schofield, Woodbury, Mildren, Blinstrub, Garrison, Slavin, Balcom, McDaniels, Martin, and Van Meter.

The Society feels honored this year in that Doctor Schofield of Boulder City was elected president of the State Society for the ensuing year. Doctor Schofield is chief surgeon for the Big Six Company, Inc., builders of Boulder Dam.

After a brief business meeting, during which a tentative schedule of programs was arranged for the year, the Society had the pleasure of hearing a résumé of the more interesting papers presented at the annual College of Surgeons' meeting recently convened in San Francisco. Doctors Mildren, Woodbury, and Schofield gave brief but interesting discussions relative to some of the newer developments in surgery, and also described numerous instruments that are being used in the larger clinics. In particular, the peritoneoscope apparently produced the most interest and attention.

The Society will have its regular monthly meeting upon the second Tuesday of every month hereafter, and it has hopes of presenting several prominent physicians from our neighboring larger centers at those meetings.

Hale B. Slavin, *Secretary.*

No enterprise in the wide range of human experience can rank with training the mind. If, therefore, we have received from heaven nothing so good as the mind, what should be more worthy of exercise and cultivation? No other adventure is to be compared with it. Through it civilization and all man's higher achievements have been won. The report of a gun does not carry so far as the music of the lyre. To pursue intellectual ideals, unlike the privilege of galloping with a king in a royal game park, is a glorious adventure open to every man who cares to live richly and well.—Leon J. Richardson.

MISCELLANY

Under this department are ordinarily grouped: News Items; Letters; Special Articles; Twenty-five Years Ago column; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

American Medical Association, Kansas City, Missouri, May 11-15, 1936. Olin West, M. D., 535 North Dearborn Street, Chicago, Illinois, Secretary.

California Medical Association, Coronado, May 25-28, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco, Secretary.

Western Surgical Association, Rochester, Minnesota, December 6-8, 1935. Albert H. Montgomery, M. D., 122 South Michigan Boulevard, Chicago, Secretary.

Medical Broadcasts*

The American Medical Association broadcasts over the blue network of the National Broadcasting Company at 5 p. m., eastern standard time (4 p. m. central standard time, 3 p. m., mountain time, 2 p. m. Pacific time), each Tuesday, presenting a dramatized program with incidental music under the general theme of "Medical Emergencies and How They Are Met." The title of the program is "Your Health." The program is recognizable by a musical salutation through which the voice of the announcer offers a toast: "Ladies and Gentlemen, Your Health!" The theme of the program is repeated each week in the opening announcement, which informs the listener that the same medical knowledge and the same doctors that are mobilized for the meeting of grave medical emergencies are available in every community, day and night, for the promotion of the health of the people. Each program will include a brief talk dealing with the central theme of the individual broadcast.

This program is broadcast also on the short waves through KDKA, Pittsburgh, over station W8XK, 11.870 and 12.210 kilocycles.

The December programs are as follows:

Tuesday, December 3—Subject, Tuberculosis—Dr. Morris Fishbein.
Tuesday, December 10—Subject, Hunting Accidents—Dr. Morris Fishbein.
Tuesday, December 17—Animal Diseases in Man—Dr. W. W. Bauer.
Tuesday, December 24—Subject, Eat, Drink and Be Merry, Dr. W. W. Bauer.
Tuesday, December 31—Pneumonia—Dr. W. W. Bauer.

* * *

San Francisco County Medical Society.—The radio broadcast program for the San Francisco County Medical Society for the month of December is as follows:

Tuesday, December 3—KYA, 6 p. m.
Tuesday, December 10—KYA, 6 p. m.
Tuesday, December 17—KYA, 6 p. m.
Tuesday, December 24—KYA, 6 p. m.
Tuesday, December 31—KYA, 6 p. m.

* * *

Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of December is as follows:

Tuesday, December 3—KECA, 11:15 a. m. Subject: The Road to Health.
Saturday, December 7—KFI, 9 a. m. Subject: The Road to Health.
Saturday, December 7—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, December 10—KECA, 11:15 a. m. Subject: The Road to Health.
Saturday, December 14—KFI, 9 a. m. Subject: The Road to Health
Saturday, December 14—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, December 17—KECA, 11:15 a. m. Subject: The Road to Health.
Saturday, December 21—KFI, 9 a. m. Subject: The Road to Health.
Saturday, December 21—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, December 24—KECA, 11:15 a. m. Subject: The Road to Health.
Saturday, December 28—KFI, 9 a. m. Subject: The Road to Health.
Saturday, December 28—KFAC, 10:15 a. m. Subject: Your Doctor and You.
Tuesday, December 31—KECA, 11:15 a. m. Subject: The Road to Health.

Los Angeles County Hospital Postgraduate Courses. The Los Angeles County Hospital postgraduate courses for practicing physicians, announced in last month's issue (page 381) and conducted under the auspices of the Los Angeles Medical Department, University of California, were completed on November 22. Sixty-five licensed physicians availed themselves of the opportunity to take one or more of the five-day morning or afternoon courses, the number of each course being as follows:

COURSES	Number of Students
Internal medicine	10
Cardiology	5
Roentgenology	8
Obstetrics and gynecology	12
General surgery	7
Orthopedic surgery	5
Genito-urinary	12
Proctology	11
General review	6
Surgical anatomy	11
Operative surgery*	5
Total number of registrants in all courses	82

The figures based on residence show that fifty-four of the student-physicians were in active practice in California, and ten from other states, the classification by counties and states being as given below:

FROM CALIFORNIA	
Los Angeles County	37
Fresno County	4
San Diego County	6
Santa Barbara County	2
Riverside County	2
San Bernardino County	1
Alameda County	1
San Francisco County	2
	55

OUT OF STATE STUDENTS	
Nevada	3
Utah	2
Oregon	2
Idaho	2
Arizona	1
	10

The medical schools represented by class members who took the courses, with number of graduates accredited to each college, included the following institutions:

Name of College	Number of Students
University of California Medical School	3
University of Southern California School of Medicine	2
Stanford University School of Medicine	2
College of Medical Evangelists	12
Rush Medical College	1
Northwestern University Medical School	4
University of Illinois College of Medicine	2

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* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to CALIFORNIA AND WESTERN MEDICINE, 450 Sutter Street, San Francisco, for inclusion in this column

* This course is given in the main building of the Los Angeles Medical Department and will continue for five weeks.

Chicago College of Medicine and Surgery	1
State University of Iowa College of Medicine	1
University of Kansas School of Medicine	1
Kansas City College of Medicine and Surgery	1
University of Louisville School of Medicine	1
Hospital College of Medicine, Louisville	1
Jefferson School of Medicine	2
Tulane University of Louisiana School of Medicine	2
Baltimore Medical College	1
Medico-Chirurgical College of Philadelphia	1
University of Michigan Medical School	1
University of Minnesota Medical School	2
Missouri Medical College	1
Washington University School of Medicine	1
Ensworth Medical College	1
St. Louis University School of Medicine	1
University of Nebraska College of Medicine	1
Creighton University School of Medicine	2
Columbia University College of Physicians and Surgeons	1
Long Island College of Medicine	1
Syracuse University College of Medicine	1
Starling Medical College	1
University of Cincinnati College of Medicine	3
University of Oregon Medical School	1
Hahnemann Medical College of Philadelphia	1
Vanderbilt University School of Medicine	1
University of Tennessee College of Medicine	1
Meharry Medical College	1
Medical College of Virginia	1
University of Wisconsin, College of Medicine	1
School of Surgery, Royal College of Surgeons in Ireland	1
Universitat Leipzig Medizinische Fakultat	1
Regia Università degli Studi di Modena (Italy Facoltà di Medicina e Chirurgia	1
	65

California Tuberculosis Association.—*Clearance,* official organ of the California Tuberculosis Association, recently suspended publication. Its sponsors sent out the following notice: Here Lies the Body of CLEARANCE. Born November, 1934. Died November, 1935.

Beloved son of Secretary William Ford Higby and the California Tuberculosis Association . . . Ushered into this life with bright expectations, this struggling infant died of pernicious anemia due to lack of gold and silver salts in his blood stream . . . After the birth of this fading memory, hundreds acclaimed his advent. He received fulsome praise, but few offered him the cup of hot milk in the form of a dollar bill or the sustaining nutriment of a bank check . . . He died, but may we not hope that his brief span of life brought certain moments of joy and inspiration to depression-smitten health and social welfare workers . . . Because this child failed to reach his majority, his parents feel the responsibility of meeting every obligation made in his name . . . Our records show that you are one of his few playmates who are entitled to a refund of the amount stated on the enclosed post-paid card . . . If this amount is correct, you may drop it in the post box and his grief-stricken parents will reimburse you from his funeral fund . . . (Signed) The Editor.

"Mercy Deaths."—The following item, typical of many others which appeared in the lay press, in connection with the supposed request of the young woman in Buffalo who begged that a physician take her life to relieve her of pain and distress, is reprinted because to our successors, twenty-five years from now, it may be of interest:

> A solemn oath which millions of doctors have taken during the last 2,000 years should prevent "mercy slaying," a government physician said in discussing the plea of Miss Anna Becker, Buffalo, that "in the name of humanity a doctor take my life."
>
> The oath of Hippocrates, which every medical student has to swear before he is graduated, includes the phrase: "If any shall ask of me a drug to produce death I will not give it, nor will I suggest such counsel."
>
> The government physician, who declined to allow his name to be used, said that besides the oath, a doctor would be prevented from aiding the young Buffalo woman on legal, moral, and religious grounds.
>
> He said that while Congress had acted on many things and had given Federal departments all sorts of authority, no act of Congress had authorized anyone to kill even "in the name of mercy." Even if such a law were passed, he explained that the oath of Hippocrates still would be a bar.
>
> Other doctors said that power to kill would place a tremendous weapon in the hands of an unscrupulous physician. The burden of deciding whether a person was to be killed or not would be too "terrible" to place upon any human being, one oustanding physician said.

Federal Pure Food and Drugs Act.—Among items listed in an October press bulletin by the Federal Pure Food and Drugs Department, appeared the following:

"'Miss R. Regina,' who is also known as 'Regina Rieppel,' New York, was fined $40, of which $25 was remitted by the federal court at New York. She had been found, according to the allegations, to be conducting a mail-order business in herbs, prepared medicines of the 'old-country' type, books on diet and the home treatment of disease written by various alleged authorities, and religious tracts. Her products which ran afoul of the law were packaged shave grass and juniper berries. The shave grass, otherwise known as horsetail or equisetum, was labeled with extravagant claims translated from a treatise by a nineteenth century German clergyman, and mentioned prominently such morbid conditions as kidney and bladder-stones, hemorrhages, putrid wounds and gangrenous ulcers. The juniper berries were sold as a treatment for weak stomach, as an aid to the shave grass in the removal of stone and gravel from the kidneys, and for liver complaints. Their only physiological action is also that of a diuretic."

Poisoned Baking Soda.—Associated and other press agencies sent out from San Francisco some rather sensational articles during the third week of November, of which the clipping below is a specimen:

> San Francisco, Nov. 21.—As police searched frantically tonight for a maniacal chemist with a mass-murder complex, the death toll of the poisoned bicarbonate of soda wave sweeping the city was brought to four, and twenty-three persons were reported desperately ill.
>
> Three hours after taking a "dose of soda" George Purnaras, forty-five, a dishwasher, died in terrible agony. The soda he took, investigation showed, came from a different source than that causing three previous deaths in the poison peril.
>
> Late today Dr. J. C. Geiger, city health officer, told police he believes two deadly poisons were put into bulk bicarbonate of soda sold to nearly one thousand families from a Mission district store.
>
> Declaring he believed the poisons were placed in the soda with criminal intent, Doctor Geiger said:
>
> "A maniac with expert knowledge of chemistry should be sought. It isn't reasonable to think that two poisons could have gotten into those soda barrels accidentally! I think someone who knew chemistry well is guilty, because the combination of the two poisons, arsenic and fluoride, made them very difficult to detect with quantitative tests. One poison helped obscure the other."
>
> Meanwhile, word came from Los Angeles that a known anarchist involved in a Chicago poison case had been seen recently in Los Angeles and San Francisco.
>
> With all San Francisco fearful and police and health authorities striving to "run down the fiend responsible for this poisoning," Joseph Rosenthal, proprietor of the store in which the soda was first sold to the public, and Nick Manno, head of the salvage firm which sold it to Rosenthal, appeared in Municipal Court to answer a pure food violation charge.
>
> The case was put over until December 2, to await results of the coroner's inquest into the poisoned soda deaths.
>
> The soda taken by Purnaras was, police were told, purchased from a wholesaler other than the firm to which the previous poisoned soda was traced.
>
> Meanwhile, twenty other deaths under mysterious circumstances since the bulk baking soda involved was first sold are being investigated.

* * *

A later item shed additional light on the mystery:

> San Francisco, Nov. 22 (AP).—Police officials tonight announced San Francisco's poisoned baking soda mystery, in which three lives already have been lost and twenty-three persons made seriously ill, was nearing complete solution.
>
> The discovery that two barrels of salvaged baking soda in a local department store had been replenished, as sales were made, from a third barrel which contained a deadly poison rather than soda, was announced by Dr. J. C. Geiger, city health director.
>
> Inspector George Engler declared an employee of the salvage firm that sold the soda to the store told him his employer had pointed at an unlabeled barrel, had then tasted its contents, and said:
>
> "It tastes like soda; take it along."

Scientific Exhibit: Kansas City Session, American Medical Association.—The Scientific Exhibit at the Kansas City session of the American Medical Association will be held in the Municipal Auditorium in conjunction with the other activities of the Association, May 11-15, 1936. All applicants for space in the Scientific Exhibit must fill out the regular application blank.

The exhibit will cover a wide variety of subjects, including the basic medical sciences as well as the various specialties in medicine. The various sections of the Scientific Assembly have appointed section representatives, who will correlate the section exhibits, as far as possible, with the papers read at the section sessions.

Applications for the Scientific Exhibit close on January 27, 1936. Assignments of space will be made about February 24, 1936.

Further information may be obtained from Thomas G. Hull, director, Scientific Exhibit, 535 North Dearborn Street, Chicago.

The National Society for the Prevention of Blindness.—The annual conference of the National Society for the Prevention of Blindness was held at the headquarters of the Society in Rockefeller Center, New York, December 5 to 7, according to Lewis H. Carris, managing director. The topics discussed included: Medical Social Eye Work; The Prevention of Eye Accidents Caused by Fireworks; and The Division of Responsibility Between Official and Unofficial Agencies in the Movement for Prevention of Blindness.

Mr. Carris also reported the election of the following as honorary vice-presidents of the Society: Dr. George E. DeSchweinitz of Philadelphia, emeritus professor of ophthalmology in the Medical School, University of Pennsylvania; Dr. John H. Finley, associate editor of the New York *Times;* and Miss Lillian D. Wald, president of the Henry Street Settlement of New York City. Other honorary vice-presidents of the Society are: United States Senator Thomas P. Gore of Oklahoma; Helen Keller, and Mrs. Winifred Holt Mather.

Dr. Walter B. Lancaster of Boston, associate in ophthalmology, Harvard University Medical School, and Dr. Bernard Samuels of New York City, professor of clinical surgery, Cornell University Medical School, have been elected to the Society's board of directors.

Certified Milk Pasteurization.—Pasteurization of certified milk results in a product that averages less than 100 bacteria per cubic centimeter, according to Dr. M. J. Rosenau, president of the American Association of Medical Milk Commissions. In an address before the International Association of Milk Dealers in St. Louis on October 19, 1935, Doctor Rosenau stated that pasteurization of certified milk, which is now permitted, reduces bacteria virtually to the irreducible minimum and, furthermore, has no appreciable effect upon the unique nutritional values of this exceptional milk supply.

For more than forty-one years certified milk has been produced under the direct supervision of committees of the medical profession, and in accordance with uniform, national standards, revised annually by medical experts. Certified milk, according to Doctor Rosenau, has always been the leader among clean and safe milks, and now with the added advantage of pasteurization, it represents the last word in quality milk.

The importance of quality in all milk supplies was stressed by Doctor Rosenau, who urged a national campaign to promote greater consumption of quality milks, particularly certified.

"The quality of milk is not strained," he said, paraphrasing Shakespeare. "Quality is twice blest; it certifies him that sells and profits him that buys. Quality is the proudest prize of the producer and the surest comfort of the consumer. It is an attribute that glorifies business to a dignified, helpful and important public service. Quality is mighty for good and mightiest when good."

That, in his opinion, characterizes our modern certified milks, whether pasteurized or unpasteurized.

Epidemic Meningitis.—United States Public Health figures to September 28, 1935, report 4,543 cases of epidemic meningitis as against only 1,804 reported up to September 29, 1934. Although these statistics, pointing to an incidence two and one-half times greater in 1935 than in 1934, are not indicative of alarming epidemic, they nevertheless merit careful scrutiny, with eyes open to the potentialities of epidemic meningitis to become a grave community problem at times.

Popular Medical Lectures: Stanford University.—The Stanford University School of Medicine announces the fifty-fourth course of popular medical lectures for 1936. Illustrated lectures will be given in Lane Hall of the School of Medicine, Sacramento and Webster streets, San Francisco, on alternate Friday evenings at eight o'clock sharp. The schedule of lectures is as follows:

January 3—Sinusitis, Allergy and the Common Cold, Dr. Edward C. Sewall.

January 17—Public, Patient, Physician, and Health Insurance, Dr. T. Henshaw Kelly.

January 31—Superstitions, Facts and Theories of Menstruation, Dr. C. Frederic Fluhmann.

February 14—Success of Control of Communicable Diseases in San Francisco, Dr. George H. Becker.

February 28—Value and Limitations of Plastic Operative Procedures, Dr. Albert D. Davis.

March 13—Present Conceptions of the Nature of Mind, Dr. Thomas G. Inman.

Splendid If True: Pains of Dentistry to Be Eliminated!—Under the caption, *"New Pain Eliminator Evolved for Dentists,"* the following Associated Press dispatch of November 28 was given space in the lay press:

"A literal meaning may soon be given that ominous dental admonition to 'open wider, please; this isn't going to hurt—much.'

"Columbia University announced today discovery of a revolutionary and harmless pain-deadener by Dr. Leroy L. Hartman, professor dentistry in the School of Dental and Oral Surgery.

"Medical claims attached to the new desensitizer state that it is expected to revolutionize the practice of dentistry by eliminating pain and that 'drilly' feeling in the preparation and filling of tooth cavities.

"The new desensitizer, perfected by Doctor Hartman after twenty years of research, is described as a solution applied to the surface of the tooth, not only preventing pain but also offering the possibilities of saving teeth now doomed to be lost through extraction.

"Although full details were withheld, Doctor Hartman said the desensitizing solution is based on a new theory of pain and the recognition of a previously unknown substance in the dentin of the tooth.

"It becomes effective in about one and a half minutes after application. It remains effective from twenty minutes to an hour."

University Men to Attend Convention on Tropic Disease.—Clinical examination of a number of strange tropical and oriental diseases that threaten an invasion of this country, and a number of others, such as leprosy and yellow fever, which appear to be backing up before the advances of medical science, were considered at the thirty-first annual meeting of the American Society of Tropical Medicine in St. Louis, Missouri, November 20, 21, and 22. Several members of the staff of the University of California Medical School presented papers at the meeting.

The convention, which was held in conjunction with the American Academy of Tropical Medicine, recently formed, attracted the attention of transportation interests, exporters and importers, and other business and professional interests throughout the country. The keeping of the tropical and oriental trade and traffic routes closed to the entry of disease was the outstanding theme of the convention.

Dr. Alfred C. Reed, director of the Pacific Institute of Tropical Medicine, a part of the Hooper Foundation of the University, presented a paper on the teaching of tropical medicine in the United States, and led a discussion on the intestinal protozoa of Arizona. Dr. Herbert G. Johnstone of the Institute staff, discussed "The Chemotherapy of Dirofilaria immitis." Studies of leprosy in Brazil were outlined by Dr. Hamilton H. Anderson and others.

"Glucose Tolerance in Rat Leprosy," a paper presented by Dr. George A. Emerson of the West Virginia University School of Medicine, was discussed by Dr. Chauncey D. Leake, professor of pharmacology in the University of California Medical School.

The Gorgas Memorial Laboratory at Panama, the London School of Hygiene and Tropical Medicine, London, England, the Rockefeller Foundations in Athens, Greece, and Rome, Italy, and a number of university medical schools were represented at the meeting.

Contamination of Domestic Water Supplies.—Studies made by the United States Bureau of Mines, Department of the Interior, in coöperation with the Kansas State Board of Health, have emphasized that the casing in producing oil wells must be kept in proper condition and abandoned wells must be plugged by methods suitable to the conditions in the individual wells and in the formations they have penetrated if fresh-water supplies and oil and gas resources are to be protected. Salient points pertaining to mineral contamination of fresh-water supplies through inadequate plugging methods or faulty casing have been presented in a brief and elementary discussion prepared by Ludwig Schmidt and C. J. Wilhelm, petroleum engineers of the Bureau of Mines. The authors of this informative pamphlet conclude that the abandoning and plugging of each well is a separate problem, but show that methods are available which, if used in accordance with good engineering practice, should reduce to a marked degree the mineral contamination of fresh-water supplies by subsurface brines.

Following prefatory statements regarding the composition of oil-field brines and their effect on animal and vegetable life, the sources from which waters high in mineral content enter fresh-water supplies are described. These are dealt with in two general classes, namely, subsurface and surface sources. Methods of plugging are discussed, and simple illustrations show types of improper plugs that allow depletion or mineral contamination of fresh-water sands. The booklet discusses the judicious use of mud fluids and cement and their limitations, and shows how faulty casing, either improperly seated or corroded, may permit brines to migrate to fresh-water or oil-producing horizons.

Copies of this booklet of fifteen pages and five illustrations are being distributed by the Kansas State Board of Health, Lawrence, Kansas, in accordance with a coöperative agreement with the Bureau of Mines pertaining to the disposal of oil-field brines.

LETTERS

Concerning health education by radio.

American Medical Association
Bureau of Health and Public Instruction

To the Editor:—A short time ago we announced in a special letter to local societies a new departure in health education by radio, namely, the dramatization of programs over a network of the National Broadcasting Company. At first it was not apparent that this would be broadcast farther west than Denver, but the program has actually been broadcast on a nation-wide network, including a short-wave broadcast over W8XK (Pittsburgh).

We asked that this program be announced in local bulletins and thus emphasized for the information of physicians.

As this is written, there have been five broadcasts and the audience mail response has been of such an enthusiastic character that we feel justified in asking you to make a special effort locally to get paragraphs about the program in newspaper columns by radio editors. . . .

It has been demonstrated that radio, itself an advertising medium, cannot stand alone but must be supplemented by other publicity media.

W. W. Bauer, M. D.

Concerning cyanide antidotes.

To the Editor:—The following is an excerpt from an article on "Cyanide Antidotes and Medical Progress" published in *The Journal of the American Medical Association* under date of November 2, 1935. Perhaps this may be of interest to you.

"Eventually J. C. Geiger, health official of San Francisco, acting on the recommendation of Hanzlik and Richardson, demonstrated the humanitarian value of this comparatively old, yet recent, discovery. (This refers to the use of methylene blue in cyanide poisoning.) This single clinical experiment has deservedly earned a widespread approbation. In one sweep it confirmed the value of controlled experimental procedure, saved human life, and marked progress in medical science. These striking events have moved so suddenly that their full significance for medicine cannot be measured yet. But it is already apparent that many investigations of oxidation-reduction dyes, of methemoglobin agents and processes, and of related problems, have been stimulated the world over. Apparently nothing need be too remote or unsuspected to illuminate the dim crossings and byways on the great highway of medical progress."

J. C. Geiger, M. D., *Director*.

Office of Director of Public Health,
City and County of San Francisco.

Concerning a seventeenth-century comment on empiric practitioners.

October 14, 1935.

To the Editor:—The following excerpt, under the heading "Quacks: Yesterday, Today, and Forever," from the preface to a book printed in 1685, might interest the readers of California and Western Medicine.

Very truly,
Hyman Miller, M. D.

1136 West Sixth Street, Los Angeles.

Quotation follows:

"But some will say, Why should you translate so Excellent a Book, and make it common to the Silly and Unlearned Quacks? My answer is, That 'tis come to that pass now, that their Numbers can hardly be increased by translating of Books, or any other means, and seeing this Nation is so unhappy, as to swarm with those Miscreants after such a rate, and no hopes of diminishing their Numbers, but by a new Act of Parliament (which God put into the Hearts of this Excellent, Loyal Wise Senate, that we are to be suddenly blessed with,) I judged it no small Act of Charity (seeing they are no way hindered to Practice) to inform them better, that thereby I might conduce to the saving of many lives, which by their Ignorance they would otherwise inevitably destroy. And now, that it comes to my Mind, I would have the World, but especially every good and charitable Member of the ensuing Parliament, take notice, that by a just and easy Computation, which I have often made, and am still ready to make, upon any good occasion, it is found, that all the Plagues that happen'd in England, have not destroyed as many, as the Quacks and Empyricks of this Nation. Let him therefore that would avert the Plague, if in his Power, by a stronger Reason endeavor to avert this greater Mischief; Which is in itself possible; in the mean time the best thing Physicians can do, will be to inform them what they can, to prevent (what in them lies) their destroying of the King's good Subjects; for seeing the Nation is topfull of them, that it cannot well be more stocked with them, that is (as I said before) the only Remedy left (in some measure) to prevent the Murthers. I had, to confess the plain truth, another Reason which induced me to translate this Book, and it was To get a little Money, which otherwise I could not do by my Profession, because of the Quacks; and to make my Market the better, I chose the best of Books, or I should have been no wise Trader, and had my Labour for my Pains, which I could not fear in translating so Excellent and Useful a Book. Which I have made somewhat the more so, by explaining at large all the Chymical and other difficult Characters contained therein, and by manifesting the Sense of many difficult places."

From "An Introduction to the Whole Practice of Physick—Shewing the Natures and Faculties of Medicines, the Reason and Manner of their Operations, and to what Particular Parts they are appropriated. Directing the more Unskilful in the true Method of Physick; according to the most successful Practice of several Modern Physicians in General and of the late Famous Dr.

Willis in Particular; being chiefly a Translation of the renowned WEDELIUS, a Publick Professor of Physick, and Physician to the Duke of Saxony, etc.

London, Printed for William Thackery at the Angel, and Thomas Yeate at the Bell in Duck-lane. MDCLXXXV.

Concerning the curious court decision referred to on pages 325 and 385 of the October issue.*

October 25, 1935.

Dear Doctor:

Your letter of October 22 with the enclosed clipping from the Los Angeles *Herald-Express* has been received. I must confess that the first sentence in the newspaper report gave me quite a shock; however, upon reflection several facts occurred to me: First, the newspaper article states that the case being reported arose in the Municipal Court in Los Angeles. The Municipal Court is the lowest court of record in Los Angeles. It exercises a jurisdiction comparable to that of justice of the peace in other counties. Therefore, whatever the municipal judge may have decided in the case reported, it is not binding as a precedent upon other courts through the State. Second, it seems apparent from the newspaper article that there must have been circumstances in the case reported which were not known to the reporter.

With respect to the statement in the article that: "A doctor who gives emergency treatment in a city in which there is no receiving hospital cannot collect a fee if the patient does not wish to pay. His services are presumed to be in the interests of humanity." I have no hesitancy in stating that, generally speaking, this is not the law. It has always been recognized in this country that where a physician renders services to a person injured by an accident rendering him unconscious or otherwise incapable of making a request for or expressing consent to the medical services, the law will imply a promise from him who received the benefit of the services to pay for them.

There are a few exceptions to this rule of law, the principal one being that if there is free ambulance service and free hospital treatment furnished by the municipality in which the accident takes place, and if immediate attention is not required, then a physician who performs services without a specific request cannot recover the value thereof (48 Corpus Juris, page 1158). However, the Municipal Court case reported in the clipping arose in Santa Monica, where there is no receiving hospital; therefore, the foregoing exception to the rule that there is an implied promise to pay for emergency treatment could have no application.

In your letter you asked me whether the California Medical Association could have the matter properly adjudicated in the interests of the medical profession. Of course, the answer to that question involves a matter of policy which is properly the function of the Council, rather than myself. However, in this particular instance I believe that the Los Angeles Municipal Court decision, if based upon the facts reported in the newspaper clipping, is erroneous and would not be followed by other courts in this State and that, therefore, there is no need at the present time for the California Medical Association to act. In any event, this particular case being in the Municipal Court, could not be taken beyond the Superior Court in Los Angeles, so that it would be impossible even if the case should be appealed to get a binding decision. This is so because practically all Superior Court decisions are not written. It is only the decisions of the District Courts of Appeal and the Supreme Court which are rendered in writing, and it is only those decisions which are written that may be used in the future as binding precedents.

I hope that I have been able to clear up the doubts created in your mind by the newspaper report which you sent me. If I may be of any assistance to you in the future, please feel free to call upon me.

Very truly yours,
(Signed) HARTLEY F. PEART.

Concerning treatment of Los Angeles County Relief Administration patients: Formerly treated in Los Angeles County Hospital; now to be treated in their homes.

LOS ANGELES COUNTY HOSPITAL

November 7, 1935.

Dear Doctor:

The enclosed letter received in my office today is self-explanatory.

The address of Dr. Louis Boonshaft, Medical Director of the Los Angeles County Relief Administration, is 741 South Flower Street, Los Angeles; his telephone number is Michigan 8111, Station 293.

Very truly yours,
P. BERMAN, M. D.,
Medical Director.

* * *

LOS ANGELES COUNTY HOSPITAL

November 7, 1935.

Mr. Norman R. Martin,
Executive Superintendent,
Los Angeles County General Hospital.

Attention: Dr. P. Berman, Los Angeles County Hospital. . . .

Dear Sir:

Under instructions from the Superintendent of Charities [County of Los Angeles], I have been working out, with the Medical Department of the Los Angeles County Relief Administration, the details of the transfer of all L. A. C. R. A. clients being furnished out-patient medical relief by the Department of Charities. This transfer will be effective on Tuesday, November 12, in that no new applicants known to the L. A. C. R. A. will be accepted by the Department of Charities for out-patient medical care at the Los Angeles County General Hospital or in the outlying districts under outside medical relief. As rapidly as possible, beginning on that date, all patients now receiving out-patient medical aid from the Department of Charities will be transferred to the Los Angeles County Relief Administration authority.

It has been mutually agreed by both the Los Angeles County Relief Administration and the [Los Angeles] Department of Charities that, in so far as possible, the patients will be assigned to the same doctors from whom they are now receiving treatment, provided these doctors are members of the L. A. C. R. A. panel. The medical director for the L. A. C. R. A. has agreed to include all members of our attending staffs who desire to become members of his panel.

It is, therefore, suggested that you direct a letter to the members of your attending staff [of the Los Angeles County Hospital], suggesting that they communicate with Doctor Boonshaft and make known to him their desire to take part in this work and have assigned to them certain patients now receiving medical care in the out-patient department of the Los Angeles County General Hospital.

Very truly yours,
REX THOMSON,
Superintendent of Charities
[Los Angeles County]
By ARTHUR J. WILL (Signed)
Deputy Superintendent of Charities
[Los Angeles County]

Concerning article by Meyer and Eddie on sylvatic plague, printed in this issue on page 399.*

TREASURY DEPARTMENT
UNITED STATES PUBLIC HEALTH SERVICE

Bristol Vermont,
October 5, 1935.

To the Editor:—A few days ago I received the enclosed paper from Dr. K. F. Meyer with a request that I add my discussion and forward the same to you. His letter followed me across the continent and reached me up here where I have had some delay in locating a typewriting machine.

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* This letter, which follows, was written to a member of the California Medical Association by Mr. Hartley Peart, General Counsel of the California Medical Association, and was received after the November issue had gone to press.

* See also letter in November issue, page 386, concerning a Special Committee on Selvatic Plague.

The typing is my own work on a machine that did not space uniformly, but I hope it will be acceptable.

Very truly yours,
H. E. HASSELTINE,
Medical Director, United States Public Health States.

* * *

For the information of interested readers, the following references to articles on plague, printed in CALIFORNIA AND WESTERN MEDICINE are here printed:

Letter from Rupert Blue on subject of Bubonic Plague and Rat-Proofing Measures, Vol. 38, No. 6, page 473, (June) 1933.

Bubonic Plague Control in California in 1903, Rupert Blue, Vol. 40, No. 5, page 363, (May) 1934.

Selvatic Plague—Its Present Status in California, K. F. Meyer, Vol 40, No. 6, page 407, (June) 1934.

Bubonic Plague—Editorial, Vol. 40, No. 5, page 381, (May) 1934.

Bubonic Plague in California Rodents—Editorial, Vol. 40, No. 6, page 425, (June) 1934.

Plague, W. H. Kellogg, Vol. 41, No. 2, page 103, (August) 1934.

SPECIAL ARTICLES

C. M. A. QUESTIONNAIRES: TAX-SUPPORTED HOSPITALS AND MEDICAL SERVICES.*

(Transmittal Letter of Explanation)

CALIFORNIA MEDICAL ASSOCIATION COMMITTEE ON TAX-SUPPORTED HOSPITALS

October 24, 1935.

To County Presidents and Secretaries:

The House of Delegates of the California Medical Association adopted a resolution at the Yosemite meeting (1935) calling for "The study and investigation of conditions pertaining to tax-supported medicine and tax-supported hospitalization." The speaker of the House of Delegates appointed the following committee to undertake this task: A. E. Anderson, M. D., E. Earl Moody, M. D., and Louis A. Packard, M. D.

In order to obtain information to start this work, this committee is asking that the secretary of each society be responsible for this information, or that the officers of each society delegate to one man in whom they have confidence, and who is familiar with the situation, the work of aiding this committee. In addition to filling out these questionnaires and attending promptly to further correspondence, the committee may ask this appointee to be present at one or more conferences. It is requested that the secretary return the small slip enclosed before the date requested.

A survey of the work before the committee reveals an enormous task, and it also reveals the fact that it is extremely important at this time. Please return all blanks and address all communications in reference thereto to Dr. L. A. Packard, 1412 Seventeenth Street, Bakersfield, California.

The committee will appreciate the whole-hearted and prompt support of each component society.

Very truly yours,
L. A. PACKARD, *Secretary.*

* * *

I.—QUESTIONNAIRE ON COUNTY HOSPITALS

1. Number of private hospitals of all types in county.
2. Number of private approved ACS hospitals in county.
3. Number of beds in county hospital.
4. Number of beds in all private hospitals.
5. Number of beds in approved hospitals.
6. Approximate investment in county hospital.
7. Approximate investment in private hospitals.
8. Approximate investment in approved hospitals.
9. Amount of taxes paid by private hospitals in 1934.
10. What were the 1934 (1935 figures also if available):
Total admissions to county hospital (bed patients)?
Total admissions of indigents?
Total admissions of patients charged?
Total paid to county treasurer by hospital representing collections made in hospital?
11. What was the total number of clinic or out-patients?
Total expense out-patient clinic?
Charge, if any, to out-patients?
Drug charge, if any, to out-patients?
12. Has the county hospital a *Medical* Social Service on admissions:
(*A*) Bed patients?
(*B*) Out-patient clinic?
13. What is the basis for admission to county hospital?
14. Is Hellers or any other classification used?
15. What part does the Welfare Department play in the admission of patients?
16. Who controls admissions?†
17. Is there a County Welfare Department?
18. Does the Board of Supervisors or Welfare Department abuse their authority?

* * *

II.—QUESTIONNAIRE ON CITY, COUNTY, AND SCHOOL HEALTH DEPARTMENTS AND TAX-SUPPORTED EMERGENCY HOSPITALS

1. Is there a full-time county health officer?
2. Is there a part-time county health officer?
3. Is all public health work, including that done in the cities, under the administration of the county health officer?
4. Does the County Health Department conduct:
(*A*) Infant Welfare conferences?
(*B*) Maternal Welfare conferences?
(*C*) Venereal disease clinics?
(*D*) School health program?
(*E*) Treatment clinics?
5. What number attended during the last fiscal year:
(*A*) County Infant Welfare conference?
(*B*) County Maternal Welfare conferences?
(*C*) Venereal disease clinics?
(*D*) School treatment clinics?
(*E*) Other treatment clinics?
6. Is any social investigation made at above clinics?
7. Who conducts the social service investigation?
8. Is this investigation adequate?
9. Is any charge made at any of these clinics?
10. Is the County Health Department invading the field of the practice of medicine? Specify how.
11. What objections, if any, has the county society registered against the scope of work being carried on by the health department?
12. Has the County Health Department curtailed any of its work as a result of the action of the county society?
13. Do the major cities (give names) in the county have their own health departments?
14. Do these cities conduct:
(*A*) Infant Welfare conferences?
(*B*) Maternal Welfare conferences?
(*C*) Venereal disease clinics?
(*D*) School health programs?
(*E*) Other treatment clinics?
How many attended last fiscal year?
15. Do these clinics make social service investigations?
16. Is this investigation adequate?
17. Is any charge made for the health service?
18. Has the county society at any time registered objections against any of the activities of the City Health Departments?
19. Is there any reason for the county society to object to the scope of the activities of any of the City Health Departments?
20. Do school districts in your county conduct school health departments?
21. Do any such school health departments run treatment clinics?
22. Do such treatment clinics make any social investigation?
23. Is this investigation adequate?
24. Is any charge made at these clinics?
25. Has the county society ever registered objections against the activities of such school health departments?
26. Is there any reason for the county society to object to the actions and scope of such school health departments?
27. Are such school health departments in any way invading the field of the practice of medicine?
28. Give the number of the tax-supported emergency hospitals conducted in the county?

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* See also editorial comment, on page 394.

† Please forward copy of blanks used in admitting patients.

29. Do these hospitals admit patients for medical and surgical conditions which are not strictly emergency?
30. Do these emergency hospitals make any charge for service?
31. Are these hospitals engaging in practice which is objectionable to the county society?
32. Do these emergency hospitals or other tax-supported institutions or departments of government employ resuscitation squads who administer oxygen in private homes and hospitals over long periods?
33. Is this service objectionable to the county society?
34. Are there any other tax-supported institutions in your county engaged in any work that comes within the category of medical practice?

* * *

III.—General Information

1. Population of county?
2. Where is county hospital located?
3. Is population dependent chiefly on industry or agriculture?
4. Number of physicians in county?
5. Number belonging to county society?
6. Is county hospital governed directly by Board of Supervisors?
7. Is county hospital governed directly or indirectly by an advisory board or other board?
8. Does harmony exist between the Board of Supervisors and the medical profession as represented by the county society?
9. Does the Board of Supervisors seek or accept advice from the medical society in relation to the county hospital?
10. Does the county hospital accept so-called "pay patients"?
11. Is there a sincere attempt made to admit only indigents?
12. Is a sincere attempt made to collect from pay patients?
13. Does the county hospital evade the pay issue by receiving "contributions"?
14. Are county hospital beds actually needed to care for population of county (other than indigents)?
15. Is the sentiment, if any, of the population in general in favor of the "open" or "closed" county hospital?
16. Has there been any attempt politically to make the county hospital open to all?
17. Has there been any attempt in the past two years to enlarge the county hospital beyond the capacity needed for indigents?
18. What lay organizations in the county are carrying on propaganda to open county hospitals to citizens who are not indigent?
19. Is there an apparent demand on the part of the people for legislation to open the county hospitals?
20. Is there a full-time medical superintendent or director?
21. Is there a full-time non-medical superintendent or director?
22. Is there a part-time medical superintendent or director?
23. Is there an organized staff?
24. Is the staff composed solely of members of the county society?
25. Do any of the staff receive salaries for full or part-time work?
26. Is the staff sufficient to care for the peak load of patients?
27. Is the hospital recognized for intern training?
28. How many training interns are employed?
29. Is the usual intern work cared for by residents who have completed their internship elsewhere? What salary?
30. Are all physicians of the county allowed to care for patients in the county hospital?
31. Are all physicians of the county allowed to care for patients either private or indigent?
32. Has the county society at any time objected to the manner in which members of the society have used the county hospital?
33. Have members of the county society at any time for any reason refused to do county hospital work?
34. Have any members of the county society aided the supervisors or politicians in furthering the cause of the open county hospital?
35. Does your society have a part-pay medical plan in coöperation with the county hospital?
36. Does the county hospital bring in any specialists (to augment the staff) from outside your county?
37. How is your crippled children problem handled?
38. Are the people in general satisfied with the county hospital service?
39. Is there any hospital insurance plan in operation in your county?

CORPORATIONS CANNOT PRACTICE MEDICINE IN CALIFORNIA

Opinion by Hon. C. J. Goodell, Judge in the Superior Court, in and for the City and County of San Francisco

Reference is made in this issue (on page 397) to the opinion rendered by Superior Court Judge Goodell of California. As there stated, it may well be read in conjunction with Justice Hughes' opinion, printed in last month's issue, on page 389.

In the Superior Court of the State of California, in and for the City and County of San Francisco
Department No. 16
No. 246,284

People of the State of California, *ex rel.* State Board of Medical Examiners, Plaintiff,
vs.
Pacific Health Corporation, Inc., Defendant.

Memorandum Opinion

This case, in my opinion, is ruled by *People* vs. *Merchants Protective Corporation,* 189 Cal. 531. There is not a single ground, so far as I can see, upon which it can be distinguished; nor any reason found in that opinion which cannot, with equal force, be urged with respect to the case at bar. Substitute "doctor" for "lawyer" or "attorney," and "patient" for "client," and you have the instant case. At page 539 it is said: "The attorney in such a case owes his first allegiance to his immediate employer, the corporation, and owes, at most, but an incidental, secondary and divided loyalty to the clientele of the corporation." The same is true of the doctor-corporation-patient-relationship here in question.

The law singles out members of the medical and legal professions and treats them differently from members of other professions. This is well instanced in the provisions of Sec. 1881, C. C. P., which codify, broadly speaking, the familiar rules of law respecting confidential communications. "There are particular relations," says that section, "in which it is the policy of the law to encourage confidence and to preserve it inviolate; therefore, a person cannot be examined as a witness," etc. etc. Then follow the privileged persons, and of all the learned professions (other than the ministry) the only ones so privileged are the medical and legal professions. Thus, as far as privilege goes, they are put on a par. It is the highly confidential relationship which seems to be the controlling factor.

People vs. *Merchants Protective Corporation* has been followed in several cases. In *People* vs. *Allied Architects Association,* 201 Cal. 428, the Supreme Court adopted the opinion of the trial judge, which distinguished the case of the architect from that of the lawyer. At page 432 there is found this language: "the essential element underlying the relation of attorney and client is that of trust and confidence of the highest degree, growing out of the employment and entering into the performance of every duty which the attorney owes the client in the course of his employment, and that the intervention of a corporation between the client whom it secures and the attorney whom it employs, even though the latter be duly licensed, prevents this relation of trust and confidence from arising. . . . Such a relation is *sui generis.* If a corporation could enter into this relation it might be, as the court points out, that those in control of its affairs would be without character, learning or standing, and the standards of the profession would thereby be degraded, to the great injury of the state."

In *People* vs. *California Protective Corporation,* 76 Cal. App. 354, 359, 360, the Merchants Protective Corporation case was followed. At page 360 it is said: "It thus appears that the attorneys retained and paid by the corporation are its agents and that their acts are its acts. It follows:. . . , that appellant was engaged in the practice of law." In *Whelan* vs. *Bailey,* 1 Cal. App. (2d) 334, 339, it is said: "It is well settled that a corporation may not practice law either directly or indirectly by hiring lawyers to practice on its behalf" (citing 189 Cal. 531, 76 Cal. App. 534, and 1932 Supp. Cal. Jur. 19). In the *Painless Parker* case, 216 Cal. 285, at 298, it is said: "That a corporation may not engage in the practice of the law, medicine or dentistry is a settled question in this State. None of those professions which involves a relationship of a personal as well as a professional character, which has to do with personal privacy, can be placed in the same category as druggists, architects or other vocations where no such relationship exists."

The analogy mentioned in the first paragraph of this memorandum finds support and approval in the *Painless*

Parker case, 216 Cal. 285, where, at page 297, Mr. Justice Seawell says: "To whom do the licensed dentists employed by the corporation owe their statutory duty, to Painless Parker or to the commercial institutions which pay them, or to the patient assigned them to serve? If they owed their first allegiance to their employer, the corporation, as was held in *People* vs. *Merchants Protective Corporation,* 189 Cal. 531 (209 Pac. 363), a case involving the duty of an attorney to his client, then they owed but a secondary and divided loyalty to the patient. This was denounced as not within the intendments of the law and practice."

The allegiance owed by a lawyer to his client is one kind of allegiance; that of a dentist to his patient another, and that of a physician or surgeon to his patient still another. Each obligation, in the very nature of things, is different in practice. The Supreme Court, however, invokes the analogy between dentistry and law, and the same may be said with respect to medicine.

In these three situations you have one factor common to all, namely, a commercial corporation—one organized for the purpose of making money for its stockholders—acting as the medium through which legal services, dental services or medical services are furnished to persons with whom *it* is in privity, by lawyers, dentists and physicians employed by the corporation. It makes no difference whether these professional men are salaried employees or get their compensation by way of a fee; whether they are called agents or independent contractors. The fact remains that they are subject to the orders of the corporation and its officers. It takes no great exercise of the imagination to picture any number of possible conflicts arising between a doctor and a general manager over the treatment of a member-patient.

The form of the application, and the certificates may differ in this case from the form of contracts entered into in the cited cases. However they may differ in language, the object sought to be attained in both cases is in substance and essence the same.

Alarm is expressed by counsel for defendant over the effect that a judgment for plaintiff in this case might have on a number of institutions which for years have existed in this State, and which seems to have had the approval, or at least not the disapproval, of the authorities or the State Board. Reference is made to hospital associations, to medical services furnished to members by fraternal organizations, and to industries and railroads where monthly hospital deductions are made. There is nothing in the record to show how any of these institutions operates, and so no fear is entertained by the writer that the decision of this case can have any influence whatever upon the conduct of these other enterprises. Each case must be decided upon its own facts. I am satisfied that there is no parallel between this and the other cases, as to which alarm is expressed.

It is unnecessary to discuss the authorities from outside this State. Many are cited by both sides, but I am satisfied that the California cases already discussed are controlling.

The plaintiff, in my opinion, is entitled to judgment as prayed.

C. J. Goodell, *Judge.*

(Dated) October 15, 1935.

BLACK WIDOW SPIDER POISONING

Additional Discussion

Dr. K. F. Meyer, Director of the Hooper Foundation for Medical Research, University of California, was asked to discuss the paper on "Black Widow Spider Poisoning," printed on page 328 in the November issue of California and Western Medicine. Owing to a serious illness, Doctor Meyer's discussion was written too late to be used in the November number, and is now printed as a special article:

The interesting and timely paper by Dr. Russell N. Gray recalls to the discusser a few reports on spider poisoning which he has seen during the past fifteen or twenty years.

Doctor Hameau probably was the first to describe, in the *Dublin Medical Journal,* Vol. 10, pp. 500-501, 1836, the symptoms produced by the bite of a spider (Epeira diademata): "A young girl gleaning in the fields was bitten above the left bosom by a large dark-colored spider. She felt a sharp pain in the part at the time. In a few minutes she became so weak that her limbs sunk under her, and her sufferings were so great that she rolled about on the ground and could not refrain from screaming out. Within an hour the doctor found her drenched with perspiration, her face alternately pale and flushed, her extremities cold, her breathing slow and oppressed, her pulse irregular and very small. She complained of severe pains in the feet, knees, thighs, and back; and as these subsided they fixed themselves in the epigastric region, causing a sense of most distressing oppression and anxiety. The muscles in several parts of the body were in a state of continual oscillation or tremor. Firm compression of the limbs afforded considerable relief to this symptom. The seat of the bite was red and swollen, and a small vesicle filled with a yellowish serum occupied its center. The symptoms were not relieved until three doses of opium had been administered."

Fatal intoxications caused by the so-called "black wolf," Lathrodectes tredecimguttatus, have been reported from Russia by Rossikow, Arb. Entomol. Bureau, Vol. 5, No. 2, 1904, Petersburg, Russia. In a series of 349 persons bitten by this spider, eleven died. On the other hand, Houssay (Arranas venenosas, Flaiban et Camilloni, p. 36, 1917) and Escomel, Bull. Soc. Path. Exot., Vol. 12. p. 700, 1919, who both describe severe symptoms of poisoning induced by Lathrodectes mactans, have never observed the death of a human being following a spider bite. The action of the poison is in part dependent on the location of the bite. The illness is more severe following a bite on the neck than on the foot.

The possibility of immunizing animals by injections of extracts prepared from whole Lathrodectes erebus was established as early as 1901 by Kobert. In fact, Schtscherbina (Arb. d. Entomolog. Bureau, Vol. 4, No. 4, 1903, in Russian) has immunized camels by repeated and progressively increasing doses of glycerinated-aqueous extracts of the cephalothorax dissected from the bodies of Lathrodectes malmignatus. At the end of one month the animal tolerated *thirteen* lethal doses of the extract. The serum neutralized the antigen *in vitro,* and it was successfully used therapeutically on poisoned animals, provided it was administered not later than ten to twenty hours after the introduction of the venom. In South America, Houssay and Brazil Vital (Mem. Inst. Butantan. 1925/26, and Brazil Med. 1925/26) have prepared and used specific anti-arachno toxins. More recently Becker and d'Amour in Denver (Proc. Soc. Exp. Biol. and Med., Vol. 32, p. 166, October, 1932), have shown the protective value of rat serum prepared by sublethal doses of less than one-fourth spider when tested intraperitoneally. In view of these observations it is indeed gratifying to note that the large scale preparation of a specific antivenin against the American black spider poison is being considered seriously.

THE ROCKEFELLER FOUNDATION

Programs and Policies

The Rockefeller Foundation expended $12,679,775 during the year 1934, according to its annual report, which his just been published. In commenting upon the activities of the year, Max Mason, president of the Foundation, said in part:

"The decisions reached during the year 1934 as to program in the immediate future bring increased emphasis on special fields, and on realistic research designed to meet definite and clearly recognized needs.

"The Foundation proposes to continue its traditional work in public health, studying, through its field and laboratory staffs, diseases and the control of diseases in their environments, and giving assistance to governmental activities and to the training of personnel.

"In the field of medical science the major interest will continue to be mental health, and support will be given for research and its applications, as well as for the training of personnel. A secondary interest will be the training of medical students in hygiene and public health. . . .

Public Health

Operating on a budget of $2,200,000 for public health activities, The Rockefeller Foundation in 1934 engaged in field research on yellow fever, malaria, hookworm disease, tuberculosis, undulant fever, yaws, and diphtheria; conducted yellow fever surveys and control campaigns; carried out projects in malaria control, supported numerous demonstrations of complete public health programs;

gave aid to the organization or maintenance of essential services of state and national health departments; and continued its contribution for the training of public health personnel through aid to schools and institutes of hygiene and public health as well as by support of a fellowship program.

As a general result of technical methods, developed in the laboratory, it has become evident that there are two endemic areas of yellow fever in the world. The boundaries of these areas have been approximately established. One of them occurs in Africa and extends from Senegal in West Africa to the upper reaches of the Nile. The other occurs in South America, and occupies practically the whole of the Amazon Valley, reaching for short distances into other watersheds.

It has come to be recognized that yellow fever may exist not only in a mild and almost unrecognizable form, but also in forms not associated with its recognized carrier, the stegomyia mosquito. The disease is transmitted and perpetuated in certain endemic areas by vectors different from the single one (stegomyia mosquito) encountered in Habana, Panama, and epidemic cities in general. Within these endemic areas, large parts of which are covered by jungle, there occurs a type of jungle yellow fever not carried by that mosquito and, therefore, offering to the scientific investigator new and as yet unsolved problems.

Medical Sciences

The total amount appropriated during the year for work in the medical sciences was $1,026,200. Aid of four types was given for the advancement of psychiatry: grants to universities and other institutions for the development of research and teaching in psychiatry and associated subjects; endowment and building funds for establishing psychiatric departments; research aid grants to individual workers engaged in important investigations in mental diseases; and fellowships to enable men and women especially qualified for work in this field to obtain desirable advanced training.

Grants for work in psychiatry were made to McGill University for research and teaching; to the Massachusetts Department of Mental Diseases for studies in psychiatry at the Boston State Hospital; to the Worcester State Hospital, Massachusetts, for research on dementia praecox; to the Johns Hopkins University, for the development of child psychiatry in the Pediatric Clinic; to the University of Leiden, for child psychiatry; to the Chicago Area Project, for the study, treatment, and prevention of juvenile delinquency within a few selected areas in Chicago; to the University of Rochester, for the Child-Guidance Clinic; to the National Committee for Mental Hygiene, toward support of its general expenses during 1935; to the University of Colorado, for the teaching of psychiatry in the Medical School; to the University of Michigan and the Institute of the Pennsylvania Hospital, for the development of teaching and research in psychiatry.

For work in neurology and related subjects, gifts were made to New York University, to Northwestern University Medical School, the University of Pennsylvania, the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne, Australia; Dartmouth College, and the Lister Institute of Preventive Medicine, London.

Natural Sciences

In the field of the natural sciences, appropriations made during 1934 amounted to $1,051,210. The program called for specific concentration in the fields of experimental and physicochemical biology. . . .

Social Sciences

The social science program for 1934 involved appropriations amounting to $1,164,690. . . .

In addition to the program in the social sciences mentioned above, appropriations amounting to $525,500 were made in connection with emergency grants in support of (1) studies providing for concurrent recording and appraisal of procedures in important sections of the Federal Government's recovery, relief and reconstruction programs; and (2) undertakings providing collaboration on the part of private agencies with programs, new in type or scale, of federal, state, and local governments.

The Humanities

During 1934 the Foundation's appropriations in the field of the humanities totaled $749,500. The program of specific concentration confined itself to two fields of operation: the improvement of international understanding through cultural interchange, and the preservation and interpretation of American cultural traditions. . . .

Toward the preservation and interpretation of American cultural traditions the Foundation appropriated funds to the American Council of Learned Societies for its *Dictionary of American Biography*, and to the University of Chicago for the preparation of the *Historical Dictionary of American English.* The Library of Congress received an additional grant of $20,000 for the collection of photographic copies of source materials for American history from national archives and various European libraries. The Virginia Historical Society also received supplementary funds for the preparation of its *Virginia Historical Index.* In the field of dramatic art, grants were made to Yale University and the State University of Iowa. Studies in Hispanic-American culture were financed at the universities of Texas and New Mexico and additional funds were provided for interpretive studies of Indian art at the Laboratory of Anthropology, in Santa Fe.

PUBLIC EASY MARK NO. 1*

On Certain Collection(?) Agencies

By E. Jerome Ellison and Frank W. Brock

"Read before you sign—and keep a copy," is an important business slogan devised by Better Business Bureaus. This is predicated, of course, on a thorough understanding of *what you sign.*

If you have had an experience similar to any of those reported in the following article, please send me the details.—Edward L. Greene, General Manager, National Better Business Bureau, Inc., 135 East Forty-second Street, New York City.

* * *

From Bad Debts to Worse.—The stalwart American business man, traditionally a "pillar of society," is also the principal supporting member of a national structure of rackets. To the sharping underworld, he is Public Easy Mark No. 1. The three rackets extracting the greatest sums from business men are the Collection, Credit and Customer rackets, which often operate "within the law."

When one of the glib salesmen for an "Account Purchasing Company" offers ready cash and freedom from collection worries to a business man who has a large accumulation of accounts receivable, the groundwork of the collection racket is being laid. When the creditor signs the salesman's contract, the grip of the racket has tightened. And several months later, when the "collection agency" submits its statement, the creditor will realize for the first time that he is trapped—that instead of receiving any cash, he *owes* it. And the agency is adhering strictly to the terms of the contract their creditor victim signed.

* * *

The Clause with the Claws.—We must look to the contract, then, for the "catch." In the first place, the victim is not always aware that he is signing a contract at all—he is often asked to sign merely an "application" or a "listing sheet." Even when he does sign a contract as such, the catch phrases are so artfully worded, typographically obscure and veneered over by the patter of the salesman, that he might easily skim through it without finding anything amiss. As an example there's one contract trick that is currently very much in vogue. Suppose you turn over 100 past-due accounts to an agency for collection. Then suppose the agency collects a debt of $50 due you. You will receive this statement:

One hundred service charges at 60 cents	$60.00
Less collections received by us	50.00
Balance Due Us	$10.00

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* From the Reader's Digest. Chapter 13 of the book, "The Run for Your Money," copyright 1935 by E. Jerome Ellison and Frank W. Brock. Reprinted here by permission.

This statement has a perfectly legal basis in the contract you have signed. One obscure clause reads: "Initial overhead expense of 60 cents per account [which means, despite verbal representations of the salesman to the contrary, that you owe the "agency" 60 cents for every account you turn over to them, whether they collect anything on it or not] will be advanced by the company and applied against any amount that is due the creditor" [on accounts collected]. That is just one of the contract ruses that make it possible for the gyp collection agencies to keep for themselves anything they collect on your behalf.

* * *

Court Costs.—Not all the collection schemes are based on an elaborate system of contract tricks. A group of Chicago swindlers mulcted hundreds of creditors by assessing them for "fees for legal action against debtors." Dozens of salesmen, most of them entirely innocent of the scheme, were secured through the help-wanted columns. They were sent out to solicit the collection of accounts for business and professional men. These accounts were turned over to a crew of high-pressure salesmen whose function it was to tell creditors that the debts could be collected easily and quickly by taking the case to court. Purely imaginary statements were made regarding the bank accounts, assets, responsible positions and property possessed by the debtor, as a basis for the argument that suit should be brought immediately. Creditors fell into that trap by the hundreds. Employees of the concern have stated that at least $2,000 a day came in from these calls. After deducting the small overhead, every dollar of it went into the pockets of the sharpers. No lawsuits were ever started.

Whenever a racketeer concocts a workable new scheme, imitators spring up. This scheme was no exception. One of the imitators, however, was neatly tripped up by a physician who had previously read Better Business Bureau publicity on the racket. He gave the alleged agency two fictitious accounts to collect. When the racketeers asked him for "court costs" to recover some money that was not owed from debtors who did not exist, the doctor had an airtight case, which he promptly turned over to the police. . . .

DINITROPHENOL ON LIVER FUNCTION

Additional Discussion

An article having the above caption appeared on page 337 of the November issue. The closing discussion was received too late to be incorporated with the main article, and is now printed in this department:

M. L. Tainter, M. D. (Closing).—Because of the citation in the discussion of a paper by Perkins, it should be pointed out that this article presented no new data and only attempted to summarize the French literature on this question. Reference to the original articles from France and elsewhere, including the extensive monographs prepared under the direction of the French Government, fails to establish a basis for concluding that dinitrophenol demonstrably damaged the liver in the war experience, unless it were in the cases of overwhelming acute poisoning where extreme hyperpyrexia was already present. In fact, Perkins in one place even states: "Perhaps the most interesting feature of the postmortem examination is that there are no lesions to be found which are in any way characteristic. . . . The microscopic lesions in the liver and kidney cells are inconstant, nor are there anywhere else any typical changes." It is also significant as to the lack of serious organic damage from dinitrophenol when these same monograph authors reported that, with nonfatal cases of poisoning, a few days of rest brought about a relief of all symptoms so that the men could return to their work.

I do not believe that any disparagement of laboratory experimental studies is justified. A discrepancy between clinical claims and experimental results does not argue against the validity of the experimental results. For one thing, experimental results can be, and usually are, carefully controlled and exhaustively analyzed in a manner impossible with the clinical case. It might be pointed out that, in the cases of cinchophen and alcoholic cirrhosis cited, informed clinical opinion has had to be considerably modfiied under the impact of careful and critical experimental work.

It would seem desirable, from the clinical standpoint, to differentiate a case of true icterus from one in which the jaundiced color was due to the presence of the yellow dinitrophenol in the serum; since, in the first case, liver damage would be indicated, whereas in the second case there would be no implication of a pathologic process. It is difficult to understand how the kidney-function dye, phenolsulphonephthalein (phenol red), can be used to determine a toxic effect of dinitrophenol on the liver cells. We are familiar, of course, with reports of cataract formation in patients previously treated with dinitrophenol. So far, the published evidence on this subject has consisted solely of clinical opinion of the *post hoc ergo propter hoc* type. The present paper contains no observations bearing on this problem, so that until definite data does become available, no conclusions as to the rôle of dinitrophenol in the production of these cataracts should be, or can be, drawn.

ON USE OF WORD "PHYSICIAN"

Ruling of Presiding Judge Hartley Shaw of the Appellate Court of California in a Recent Chiropractor Appeal

In the Appellate Department of the Superior Court,
County of Los Angeles, State of California
Superior Court No. CR A 1241
Trial Court No. 63521

People of the State of California,
Plaintiff and Respondent,
vs.
Richard W. Curtiss, et al.,
Defendants,
Richard W. Curtiss,
Defendant and Appellant.

Appeal from the judgment of the Municipal Court of the city of Los Angeles, county of Los Angeles.

Arthur Crum, *Judge.*

Memorandum Opinion

Section 15 of the Chiropractic Act (Deering's General Laws Act 4811), which defendant is charged with violating, provides that "any licensee under this Act who uses the word 'doctor' or the prefix 'Dr.' without the word 'chiropractor,' or 'D. C.' immediately following his name, or the use of the letters 'M. D.' or the words 'doctor of medicine,' or the term 'surgeon,' or the term 'physician,' or the word 'osteopath,' or the letters 'D. O.' or any other letters, prefixes or suffixes, the use of which would indicate that he or she was practicing a profession for which he held no license from the State of California . . . shall be guilty of a misdemeanor."

Both the complaint and the evidence show a violation of this provision by the defendant. He was licensed under the Chiropractic Act and under no other Act. He used a sign reading as follows:

"Dr. Richard W. Curtiss
Dr. Cecil E. Bowlby
Naturopathic Physician and Chiropractors
General Drugless Practice."

The Act above quoted forbids the use by licensed chiropractors of the term "physician." Several terms are included in this same prohibition, all of which would commonly be understood to designate persons who had licenses other than chiropractic, and they are followed by the general words "or any other letters, prefixes or suffixes, the use of which would indicate that he or she was practicing a profession for which he had no license from the State of California." We think the prohibition of the use of certain specified terms, immediately preceding the words just quoted, is complete in itself, and is not modified or qualified by any part of the clause quoted. Hence the use of the word "physician" and the others specifically enumerated, is unconditionally forbidden to those who have only a chiropractic license. This prohibition cannot be evaded or defeated by attaching qualifying or explanatory words to those whose use is forbidden. The use of the word "physician" by defendant, even though qualified by the word "naturopathic," was a violation of the statute.

These conclusions render it unnecessary for us to discuss the other points made, particularly the precise meaning of the word "naturopathic," and the claimed nonexistence of any statute requiring naturopaths to be licensed.

The judgment is affirmed.

Hartley Shaw, *Presiding Judge.*

(Dated) November 4, 1935.

I concur.

W. Turney Fox, *Judge.*

TWENTY-FIVE YEARS AGO[†]

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 12, December, 1910

From Some Editorial Notes:

Eighth Volume.—With this, the December issue, the eighth volume of your *Journal* is completed. When we began publishing, there were many of our members who had grave doubts that even the first volume would be completed; but we are still here, and the *Journal* will probably continue to be issued long after the original doubts or the early struggles have been quite forgotten. If you would see the *Journal* continue to grow and to improve as it ought to improve, then help to bring about that result. The *Journal* is almost entirely just what the members of the Society make it. If they write better papers, if they contribute good suggestions, valuable case reports, scientific reviews or editorials of value, by just that much do they improve their own *Journal.* There are a few (fortunately only a very, very few), captious critics who find little if anything in the *Journal* to meet their approval. But they do not count; they seldom approve anything very much, unless it is their own work or something with which they have had to do. . . .

* * *

The Next Legislature.—In January the legislature will begin its sessions and we should carefully consider some things in advance of that event. There always have been those who wish to break down the slight protection afforded the public by any sort of a decent medical law, and there doubtless always will be such; therefore we may expect that bills will be introduced either creating a new medical law or emasculating the present one. Also, there may be attempts to create special licensing boards; similar bills have been introduced at every session. If it has not already been done, each and every man who has been elected to the legislature should have this matter carefully and fully explained to him before he goes to Sacramento; after he gets there the pressure of work makes it almost impossible for one to devote a great deal of time to the consideration of these questions. . . .

* * *

A Medical Clearing House.—That is what we are trying to make the office of the State Society—a medical clearing house. A place where all the various lines of medical interest and activity in California will center. . . . Coöperation is the essential spirit of the twentieth century. Coöperate right here at home and thus, incidentally, do yourself some good; you never can tell when *you* may want a little coöperation. Help us to make the office of the Society useful in the way suggested and you will find, some day, that you have helped make for yourself a very useful institution. . . .

* * *

The Functions of the County Medical Society.—Many of its members look upon the preparation and presentation of an adequate scientific program as the sole function of the county society. Such a view is shortsighted in the extreme. The functions of the Society are many, and arise from (1) the relations of its members one to the other, or (2) the relation of its members to the community. From the first set of relations arise the functions that arrange for exchange of experience, information, and clinical programs, and lay down rules for courteous and fair relationship between members in ethical codes, and means for enforcing the codes by committees of ethics.

A much neglected but essential function that also arises from this relationship of members, one to the

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[†] This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

(Continued in Front Advertising Section, Page 12)

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA[†]

By Charles B. Pinkham, M.D.
Secretary-Treasurer

News

"Use of the word 'physician' by chiropractors, even though the term is qualified or explained, is forbidden, the Appellate Department of the Superior Court held yesterday. The appellant was Richard W. Curtis, who was said to have used a sign identifying himself as a naturopathic physician." (Los Angeles *Times,* November 6, 1935.)

"An opinion that there is no legal authority for the collection of money from patients receiving treatment in the Shasta County Hospital was rendered by Superior Judge Albert F. Ross Wednesday in a ruling on an objection by defense counsel in the personal injury suit of Leon St. Vrain against J. P. Christensen. . . ." (Redding *Searchlight,* October 17, 1935.)

"The United States Supreme Court got down to the business of making history in its new Chamber of Justice today. . . . The court refused to consider the one-million-dollar suit of the United States Naturopathic Association, Ltd., versus the Chiropractic League of California, California Attorney-General U. S. Webb, and the State Board of Chiropractic Examiners. The naturopathic healers contended, in a suit against the chiropractic group, that the latter had conspired to bar them from the practice of their profession in California. They sought an injunction against enforcement of the Medical Practice Act, as it has been interpreted by the local officials. The Federal District Court in Los Angeles dismissed the suit on petition of the defendants and an appeal was carried directly to the Supreme Court. . . ." (Press dispatch, dated Washington, D. C., October 14. and printed in the San Francisco *News,* October 14, 1935.)

"The State College of Chiropractic and Naturopathic Physicians at 85 East San Antonio Street is now operating with the Standard Chiropractic College at the same address. The latter college has the power to grant degrees. . . . The principal office of the Standard College is in San Jose, and a branch school, known as the San Francisco Unit, will be operated at 1145 Polk Street, San Francisco. . . . The above action is the result of the State College having had some difficulty regarding the question of granting degrees last July." (San Jose *News,* October 18, 1935.)

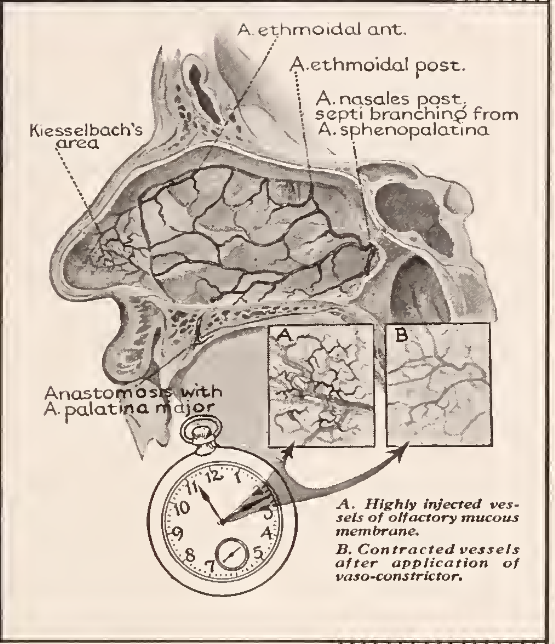
"The merger of the Columbia College of Chiropractic and Naturopathy of this city and the Standard College of Chiropractic of San Jose and the San Francisco unit of the college has been announced. The college will be known as the Standard Chiropractic College, Sacramento Unit. . . ." (Sacramento *Bee,* October 21, 1935.)

"A new trial was granted today by the District Court of Appeal to Dr. William J. Jacobs, Santa Barbara physician, sentenced to life imprisonment for the fatal shooting of Mrs. Lillian Newlon on a Santa Barbara street last November 7. The court ruled that the jury which adjudged Doctor Jacobs sane was not correctly instructed as to the law. Doctor Jacobs was also charged with wounding Miss Adeline Flint." (San Francisco *Examiner,* November 5, 1935.) (Previous entries, December, 1934; April, 1935.)

[†] The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6.

(Continued in Front Advertising Section, Page 20)

PROMPT RELIEF OF NASAL CONGESTION


A. ethmoidal ant.
A. ethmoidal post.
A. nasales post. septi branching from A. sphenopalatina
Kiesselbach's area
Anastomosis with A. palatina major
A
B

A. Highly injected vessels of olfactory mucous membrane.

B. Contracted vessels after application of vaso-constrictor.

When the patient with a "cold" is relieved of the troublesome congestion and breathing is made easier, he is better able to obtain needed rest and more willing to cooperate.

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by rapid vasoconstriction quickly affords relief from the "stuffed up" feeling that accompanies the common cold.

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Action more sustained than that of epinephrine
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Made from fully ripened Concord grapes. No sugar, water, or other substance is added, as it is *naturally sweet* with its own grape sugar.

The Quality of Church's Grape Juice is due to the soil and climate in the Kennewick area on the banks of the Columbia River, where the grapes are grown.

Church's Grape Juice was awarded Gold Medals at the Panama Pacific International Exposition and the Panama-California Exposition, and has been given the seal of acceptance by the American Medical Association.

Church Grape Juice Co.
KENNEWICK, WASHINGTON

(Continued from Page 30)

and discoveries. In a short time he had made the most difficult diagnostic tasks relatively easy. In half the time now allotted for a medical education, Laennec, virtually without chart or compass, "observed, recorded, tabulated and communicated" practically all that is now taught with reference to the diagnosis of diseases of the thorax. He died of tuberculosis at the age of forty-five.

The invention of the stethoscope enabled Corvisart, personal physician to the great Napoleon, to check the results of percussion in the living body. Auenbrugger may have failed to establish the value of his method because he could confirm his observations only at autopsy.

The great French teacher, Louis (1787-1872), who established clinical medicine throughout the world, correlated in a scientific way the symptoms at the bedside with the pathologic changes found at autopsy and inaugurated valuable statistical methods of recording his observations. Louis, who was one of the world's greatest clinical teachers, also suffered from tuberculosis. When thirty-four years of age he gave up private practice to pursue his clinical pathologic investigations, the results of which he reported in a volume of 600 pages, known as "Louis's Researches on Phthisis" (tuberculosis). It is impossible to estimate the value of his contribution to medical education. His spirit inhabits the wards of every well-ordered hospital; his influence is evident wherever the principles of clinical medicine are taught.

And then came the discovery of the tubercle bacillus by Robert Koch in 1882. After centuries of anonymity the enemy was brought out into the open and mankind knew what it was fighting. A few years later came Koch's famous announcement of his discovery of "tuberculin" as a cure for tuberculosis. The news stirred the world. But disappointment soon followed. Use of the substance showed that its therapeutic value had been overestimated. The disappointment was compensated to some extent, however, by the adaptation of tuberculin as a diagnostic aid. Today it is considered especially valuable in detect-

(Continued on Page 37)

One of a series of advertisements prepared and published by PARKE, DAVIS & CO. in behalf of the medical profession. This "See Your Doctor" campaign is running in the Saturday Evening Post and other leading magazines.

For 1936: a new outlook on life

This is a message to people who have been turning their backs on a very good friend the whole year long.

That friend is a *symptom*—some sign of disturbance within your body, perhaps a pain, or some other vague warning, that has been trying to say to you, "There's something wrong. May be trouble ahead. *Do* something about it."

Why carry the mistakes of the old year over into the new? Why let the neglect of the past throw a shadow over your hopes, and plans, and resolutions for the future? Before the new year dawns, *do* something about that warning. Do the intelligent thing—*see your doctor.*

He is the one person who cay say whether your trouble is a trivial one—or whether it may, if left uncurbed, seriously affect your success and happiness in the years to come.

Perhaps these past several disturbing years have drawn your nerves taut, or lowered your general resistance. Perhaps the years have contributed too generously to your weight, thus putting an unfair burden upon your heart. Or perhaps he'll find some functional disorder which is capable of reaching serious proportions if neglected. Let your doctor decide what ought to be done.

And if he should find only some minor ailment, which will yield quickly to treatment, you'll have the thrill of getting a good bill of health from the one person who can give it. What a start for a bright new year—to be able to walk from your doctor's office, head high, unafraid, to face 1936 with the invigorating knowledge that you have the physical equipment with which to fight for the things in life you want most!

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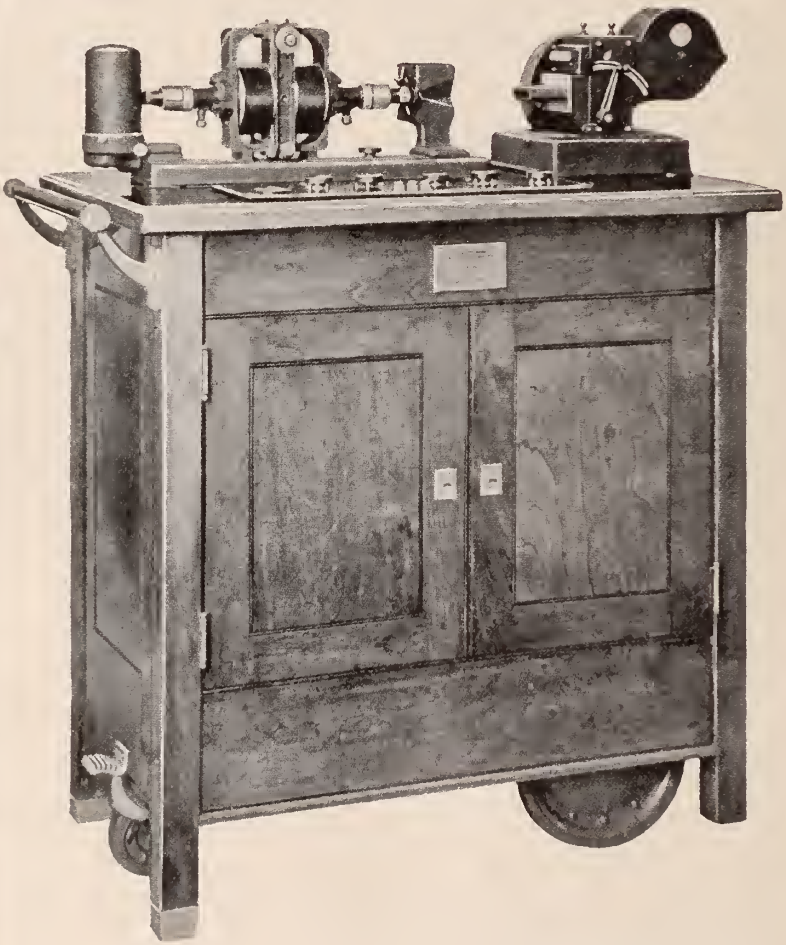
The new all-electric model Electrocardiograph represents the greatest advance which has been made in Electrocardiographic apparatus in recent years and has attracted the favorable comment of prominent Cardiologists from all over the country.



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Calso Water: An efficient method of supplying the normal ALKALINE SALTS for counteracting ACIDOSIS.

Calso Water: Made of distilled water and the ALKALINE SALTS (C. P.) normally present in the healthy body.

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BRANCH OFFICES:
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Clement St. and Seventh Ave. W. Portal Ave. and Ulloa St.
1528 Fillmore Street

(Continued from Page 34)

ing the presence of tubercle bacilli in children before the disease becomes active.

The next great contribution to the fight against tuberculosis was made by Roentgen, a distinguished German physicist. He was experimenting with the tubes invented by Doctor Crookes for the purpose of passing an electric discharge through a vacuum when he made the startling discovery that some mysterious rays capable of passing through solid substances impenetrable to light were given off from the tube. He named them x-rays. Today Roentgen's discovery is one of the most important weapons in the doctors' armamentarium, not only in the diagnosis of tuberculosis, but of many other conditions.

Contemporaneously with Koch, a young American physician named Edward Livingston Trudeau (1848-1915) won his fight against tuberculosis in the Adirondack Mountains, and in the victory discovered the importance of rest in bed as an aid to recovery. He established a sanatorium at Saranac Lake to test his belief and became the father of the sanatorium movement in America. His system of treatment is still the only known method of curing tuberculosis.

One of the many honors bestowed upon him was his unanimous election in 1904 as first president of the National Tuberculosis Association, which was organized in that year "for the study and prevention of tuberculosis."

1907 the Christmas seal sale was adopted as a means of raising funds, and every year since then the seals are placed on sale for a penny each between Thanksgiving Day and Christmas. The movement has grown so that there are today more than two thousand affiliated units throughout the country. Each raises its funds locally by the sale of Christmas Seals and conducts its own local program. Considerable progress has been made in reducing the death rate, but tuberculosis is still the greatest cause of death between the ages of fifteen and forty-five. Until it is under control, it is to be hoped that the American public will continue to buy and use Christmas seals.

Treatment of Children with Tetanus.—Noeggerath, in discussing the prognosis of children with tetanus, points

(Continued on Next Page)

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"I believe that this is the best Christmas present I have received in my 22 years of practice. I appreciate your Company's handling this matter so promptly and will recommend you to all my friends."

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Americans are proud of the industrial achievements that have made their brawn, courage and ingenuity world famous. The chief disease which threatens that supremacy is tuberculosis. It is the greatest cause of death between the ages of 15 and 45. Help protect American man power from this enemy by purchasing the Christmas Seals that fight it all year round. The seals you buy today may save your life tomorrow.

CHRISTMAS
1935

BUY
CHRISTMAS
SEALS

The National, State and Local Tuberculosis Associations of the United States

(Continued from Preceding Page)

out that formerly it was based, just as in adults, on the length of the period of incubation. The shorter incubation periods (up to ten days) were considered as a much more unfavorable sign than the longer incubation periods. In the new-born the limit was set at six days. The author analyzes his own material of fourteen cases and finds that their outcome largely corroborates the former opinion in regard to the unfavorable prognosis of cases in which the incubation period is short. However, he gained the impression that the rapidity of the progress of the disease is likewise an indicator of the outcome. In this connection he calls attention to the five phases that have been differentiated in the course of tetanus. It appears that, if the symptoms of the advanced stage appear soon, the prognosis is unfavorable, whereas, if they do not, the prognosis is relatively favorable. In discussing the prospects of the treatment of tetanus in children, the author points out that he saw no noticeable difference in the efficacy of the earlier or later onset of the treatment. The author gives his attention to the causes of death and stresses that the failure of the circulatory and respiratory systems is of great importance. He points out that spasms of the involuntary muscles, particularly of those of the respiratory organs, play an important part in tetanus of children. In the treatment of tetanus, attention must be given chiefly to the respiration. The spasms of the respiratory organs must be counteracted by spasmolytic remedies, but the administration of oxygen is likewise important. An oxygen tank should always be in readiness, particularly during the stage of the reflex spasms. It is also important to quiet the patient and to counteract the spasms. In this connection the author evaluates the use of sedatives and hypnotics. The specific treatment of tetanus has two chief aims: to render the focus of infection harmless and to

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Nestled in the foothills and located in an ideal climate belt.

Choice open air bungalows providing every comfort, at rates ranging from $25 per week up, including medical service, general nursing, laboratory examinations, ordinary medicines and pneumothorax treatment. A special ward rate of $18 a week is maintained for selected cases presenting a favorable prognosis.

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LUDWIG LINDBERG, M.D.
Tumor Pathology
A. H. WARNER, Ph.D.,
Physicist

neutralize the toxin of tetanus. Not much can be gained by the surgical treatment or cleansing of the infected wound after tetanus has already developed. Opinions are still divided on the second aim of the specific treatment, the neutralization of the tetanus toxin. The author thinks that large doses of the tetanus antitoxin are required.—*Klinische Wochenschrift.*

Uterine Cancer.—Plass believes that every patient with abnormal vaginal bleeding should be examined bimanually. If the cervix appears benign but does not respond to the usual treatment for cervical erosion, biopsy is demanded. Supravaginal hysterectomy should never be employed for the treatment of supposedly benign uterine lesions, unless the cervix appears normal. The cervix after such an operation constitutes a source of danger, since carcinoma may develop later. Ordinary vaginal and abdominal total hysterectomy do not constitute adequate treatment for cervical cancer, except possibly in very early cases in which the diagnosis can be made only microscopically. Operative intervention in even early cases of cervical carcinoma is justified only if the operator is prepared to remove the upper third of the vagina and the parametrium on each side practically to the pelvic wall by the radical hysterectomies of Wertheim or Schauta. Such operations have a primary mortality of from 10 to 20 per cent, and there are many who feel that all groups of cervical carcinoma should be treated by radiation therapy. Proper radiation treatment consists in the use of both high voltage x-rays and radium as soon as a positive diagnosis has been made. Abnormal bleeding from the uterus itself demands diagnostic curettage with microscopic examination of the curettings. Complete hysterectomy should be performed for adenocarcinoma of the uterus. In certain instances radium and x-radiation may be employed successfully, but this method of treatment has not yet obtained wide acceptance.—*Iowa State Medical Journal.*

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MILK
ACCEPTED
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Portrait of a Young Lady and A Young Product

As products go, Golden State Evaporated Milk is about as young as the little lady pictured above. Yet, like the Golden State Baby whose smiling face is so familiar, health, and a husky, lusty, growing body features this brand.

There are reasons. First, the fact that back of Golden State brand Evaporated Milk is Golden State's thirty years' experience and knowledge of every phase of the milk industry. Second, that in this product, as with all Golden State Dairy Products, ordinary safeguards and quality standards have been raised to new peaks of perfection. Third, Golden State's control of the milk that goes into Golden State Evaporated Milk is complete from the selection of the dairymen, the supervision of feeding and farm production right on through every step of manufacturing *and distribution.*

Golden State Evaporated Milk bears the seal of acceptance of the American Medical Association.

More and more Golden State Evaporated Milk is being recognized and recommended for infant dietary.

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Colfax School for the Tuberculous

Colfax, California

(Altitude 2400 feet)

This institution is for the treatment of medical tuberculosis and of selected cases of extrapulmonary (so-called surgical) tuberculosis.

The Colfax School for the Tuberculous consists of five Hospital Units with beds for patients who come unattended and a Housekeeping Cottage Colony for patients and their families.

The Colfax School for the Tuberculous offers the following advantages:

1. Patients are given individual care by experienced tuberculosis specialists. The patient is treated according to his individual needs.

2. Patients are taught how to secure an arrest of their disease, how to remain well when once the disease is arrested, and how to prevent the spread of the disease.

3. Patients have the advantage of modern laboratory aids to diagnosis and of all modern therapeutic agencies.

4. The climate of Colfax enables the patient to take the cure without discomfort twelve months in the year. We believe climate is secondary to medical supervision and rest, but the fact remains that it is easier to "cure" under good climatic conditions than where these climatic conditions are absent.

5. Colfax is accessible. It is on the main line of the Ogden Route of the Southern Pacific R. R. and has excellent train service. It can be reached by paved highway, being on the Victory Highway, with paved roads all the way to Colfax.

For further information address

ROBERT A. PEERS, M. D., *Medical Director*
Colfax, California

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"Quality Supreme"
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A READILY SOLUBLE VITAMIN "B" CONCENTRATE PREPARED FROM RICE BRAN...
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